

Bijlage M12.2 Overzicht MSDSen aanvraag vergunning HHTT (informatief)	
Soort product	Bestandsnaam
Additieven	Cepro 100
	CI 5100
	Stadis 450
	Hitec 4140A
	Infineum R650
	SR 1650
	SR 1690
	SR 2008
	OFl 7620
	SR 1546
	SR 1651
	PCE 5414
	PCE 9520
	DCI-4A
	F13100
	HFA 3033
	HFA 4079-1
	HFA 4225 S
	HFA 4232
	HFA 4860
	HFA 6126 M
	HFA 7025
	HFA 76
	HFA 84
	HFA 85
	HFA 95
	HFA 1021
	HFA 1024
	HFA 1026
	HFA 1174
	HFA 1183
	HFA 2039
	HFA 2062
	HFA 2071
	HFA 2072
	HFA 2077
	HFA 4066
	HFA 4066T
	HFA 4076
	HFA 4077
	HFA 4099
	HFA 4101
	HFA 4114
	HFA 4159
	HFA 4314
	HFA 4326
	HFA 4454
	HFA 4482
	HFA 4642
	HFA 6014WG
	HFA 6062C
	HFA 8022
	HFA 8030
	HFA 8055
	HFA 8094
	HFA 8760
	HFA 62
	HFA 74
	HFA 1125
	HFA 2084
	HFA 4032
	HFA 6126M-10
	HFA 6151
	HFA 8087
	HFA 4068
	HFA 4913
	HFA 4088
	HFA 4099R
	HFA 4393

MATERIAL SAFETY DATA SHEET

Section 1. CHEMICAL PRODUCT IDENTIFICATION

Product Name: CEPRO 100 Cetane Improver.

Section 2. COMPOSITION

Ingredient	CAS No.	Wt%	Symbols	R Phrases
2-ethylhexyl nitrate	27247-96-7	99-100	Xn	20/21-44
2-ethyl-1-hexanol	104-76-7	0-1	Xi	36

Section 3. HAZARD IDENTIFICATION

Combustible

Harmful by inhalation and in contact with skin (R20/21)

May cause dizziness, confusion, headache or stupor

Can be absorbed through skin

In cases of severe exposure, cyanosis may develop

Section 4. FIRST AID MEASURES

Eye contact: Immediately wash out with plenty of water for at least 15 minutes

Irrigate eyes thoroughly whilst lifting eyelids

Seek medical advice

May cause burning sensation

Skin contact: Take off immediately all contaminated clothing

After contact with skin, wash immediately with plenty of soap and water

Seek medical advice

Contaminated clothing should be laundered before reuse

May cause headache

After inhalation: Remove the victim into fresh air

If breathing is difficult, oxygen should be given by a trained person

Apply artificial respiration only if patient is not breathing

Seek medical attention if ill effects occur

May cause dizziness, confusion, headache or stupor

After ingestion: Do not induce vomiting because of risk of aspiration into the lungs. If aspiration is suspected obtain medical attention

Rinse mouth with water (do not swallow)

Never give anything by mouth to an unconscious person

Seek immediate medical attention

May cause gastro-intestinal disturbances

Section 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media: Water spray, Foam, Carbon dioxide, Dry agent

Unsuitable extinguishing media: Water jets

Special exposure hazards: Smoke from fire is toxic. Decomposition products may include nitrogen and carbon oxides.

Instruction: Cool tanks/drums with water spray/remove then into safety. Consider evacuation

Special protective equipment: Chemical Protection Suit and Positive pressure breathing apparatus.

Section 6. ACCIDENTAL RELEASE MEASURES

Personal protection: See Section No 8.

Environmental precautions: Shut off all ignition sources. Absorb spillage in inert material and shovel up. Remove contaminated

material to safe location for subsequent disposal. If contamination of drainage systems or water courses is unavoidable, immediately inform appropriate authorities.

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Section 7. HANDLING AND STORAGE

Handling: Do not breathe vapour. Avoid contact with skin & eyes. Use only in ventilated areas. When using do not eat, drink or

smoke. Keep away from heat and sources of ignition. Wash thoroughly after use.

Storage: Store in a cool and well-ventilated area. Store in tightly closed container. Keep away from: heat sources, oxidizing agents, reducing agents.

Storage temperature: Not determined.

Materials for packaging: N. D. A.

Section 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Recommended engineering controls: Measures the concentration in the air regularly. Work under local exhaust/ventilation.

Exposure Limits: 2-ethylhexyl nitrate

Exposure Limit (in house) 1 ppm 7.3 mg/m³ (8 hour TWA)

Can be absorbed through the skin

Personal Protection

Eye protection: Protective goggles.

Hand protection: Gloves.

Skin protection: Head/neck protection. Protective clothing.

Materials for protective clothing: No data available.

Respiratory protection: Gas mask.

Section 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Colorless to pale yellow liquid

Sp. Gr. @ 15°C : 0.955 – 0.985

Pour Point : Below -21

K. Viscosity, @ 20°C : 1 – 6

Flash Point PMCC, °C : Min 65

Section 10. STABILITY AND REACTIVITY

Stability: Stable under normal conditions.

Reactivity/Hazardous decomposition products: When heated above 100 deg C, may undergo self-sustaining exothermic decomposition.

Decomposition products may include toxic and irritant fumes

Decomposition products may include nitrogen and carbon oxides

Conditions/materials to avoid: Keep away from: heat sources, oxidizing agents, acids and alkalies

Section 11. TOXICOLOGICAL INFORMATION

Irritation to eyes (rabbit): Minor Irritation to skin (rabbit): Minor

LD50 (skin, rabbit) > 4820 mg/kg D50 (oral, rat) > 9640 mg/kg

Sensitization (guinea pig): Negative Mutagenicity (Ames Test): Negative

By comparison with another product: Can form methaemoglobin in the blood, causing cyanosis

Vapours or aerosols may cause irritation of eyes, nose and respiratory tract

May cause dizziness, confusion, headache or stupor

May cause gastrointestinal disturbances LC50 (inhalation): 1 (hr) 4.6 mg/l/4h

Section 12. ECOLOGICAL INFORMATION

Large volumes may penetrate soil and contaminate groundwater. Not readily biodegradable

Spilt substance likely to be lost within one day by evaporation and dissolution Contact supplier for information

LC50 (fish) > 100 mg/l (96 hr) EC 50 (daphnia) > 12.6 mg/l (48 hr)

IC 50 (algae) > 12.6 mg/l (72 hr) IC50 (bacteria) 100 mg/l (0.25 hr)

Half-life under neutral conditions is 408-600 hours at 25 deg C Half-life under neutral conditions is 24 hours at 50 deg C

Water Hazard Class 2 (official)

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Section 13. DISPOSAL INFORMATION

Disposal should be in accordance with local, state or national legislation

In the EU, the product should be classified in accordance with regulations made under Directive 78/319/EEC

Incineration by an approved method could be considered

Section 14. TRANSPORTATION INFORMATION

Proper shipping name : Environmentally hazardous substance, Liquid nos. (2-ethylhexyl nitrate)

Substance Identification number (UN number) : 3082

Packaging group : III

Transport by road/rail (ADR/RID) : class 9, 11 (c)

Maritime transport (IMDG code) : class 9 p. 9028

MFAG : 235

Marine pollutant : Yes

Air freight (ICAO) : class 9

Other information : No.

Section 15. REGULATORY INFORMATION

This Material Safety Data Sheet is provided in compliance with the EC Directive 93/112/EC The data given here is based on current

knowledge and experience. This Safety Data Sheet describes the product in terms of safety requirements and does not signify any

warranty with regard to the product's properties.

The data given here only applies when product used for proper application(s). The product is not sold as suitable for other

applications-usage in such may cause risks not mentioned in this sheet. Do no use for other application(s) without seeking advice

from manufacturer.

Section 16. OTHER INFORMATION

For additional information concerning this product, contact the following:

PRODUCT EMERGENCIES

Dorf Ketel Chemicals (I) Pvt. Ltd.

#1 DORF KETAL TOWERS.

D'Monte Street, Marve Road.

Malad (W).Bombay 64.

Ph. : +91-22-28813654 / +91-22-28828374.

Fax : +91-22-28882366

Dorf Ketel LLC

3727 Greenbriar

Suite 114,

Stafford, TX 77477

Tel : 281 491 3700

Fax : 281 491 3700

The data and recommendations presented in this data sheet concerning the use of our product and the materials contain there in are believed to be

accurate and are based on information which is considered reliable as of the date hereof. However, the customer should determine the suitability of

such material for his purpose before adopting them on a commercial scale. Since the use our products by others is beyond our control, no guarantee,

express or implied, is made and no responsibility assumed for the use of this material or the results to be obtained there from. Information on this form is furnished for the purpose of compliance with Government Health and Safety Regulations and shall not be used for any other purposes. Moreover, the recommendations contained in this data sheet are not to be constructed as a license to operate under, or a recommendation to infringe, any existing patents, nor should they be confused with state, municipal or insurance requirements, or with national safety codes.

END OF MSDS

1. IDENTIFICATION OF THE PREPARATION AND COMPANY

Product name / Code Cetane Number Improver, CI 5100

Name, address and telephone number of company:

Rodanco BV
Marsmanstraat 17
1822 JE Alkmaar
The Netherlands
Telephone +31-72 561 25 71
Telefax +31-72 561 58 32

2. COMPOSITION / INFORMATION OF INGREDIENTS

Chemical characterization:

Description:

Mixture of the substances listed below with nonhazardous additions.

Dangerous components:

CAS NO.	Description	%	Symbol	R-phrases
27247-96-7	2-ethylhexyl nitrate	50-100	Xn	20/21 – 44
104-76-7	2-ethyl-1-hexanol	< 1	Xi	36

3. HAZARD IDENTIFICATION OF THE PREPARATION

Hazard description: Combustible, Harmful

Information pertaining to particular dangers for man and environment:

R-20/21 Harmful by inhalation and in contact with skin
R-44 Risk of explosion if heated under confinement

Classification system:

The classification was made according to the latest editions of the EU lists, and expanded upon from company and literature data.

4. FIRST AID MEASURES

After inhalation:

Supply patient with fresh air; if breathing is difficult, oxygen should be given by trained person.
Apply artificial respiration only if patient is not breathing.
Seek medical attention if ill effects occur.
May cause dizziness, confusion, headache or stupor.

After eye contact:

Immediately rinse opened eye for at least 15 minutes with plenty of water.

Seek medical advice.

May cause burning sensation.

After skin contact:

Take off immediately all contaminated clothing; wash skin immediately with plenty of soap and water.

Seek medical advice.

After Swallowing:

Do not induce vomiting because of risk of aspiration into the lungs. If aspiration is suspected obtain immediate medical attention.

Rinse mouth with water (do not swallow). NEVER give anything by mouth to an unconscious person.

Seek immediate medical attention.

May cause gastro-intestinal disturbances.

Information for doctor

The following symptoms may occur:

May cause dizziness, confusion, headache or stupor

See section 11 – Toxicological information

Note to physicians: Treat by observation and supportive measures as indicated by patient's condition.

5. FIRE – FIGHTING MEASURES

Suitable extinguishing agents:

Water spray, CO2, extinguishing powder(S43), foam.

Suitable extinguishing agents:

Do not use water jets

Protective equipment: Wear chemical protection suit and Positive Breathing Apparatus.

Smoke from fire is toxic. Take precautions to protect personnel from exposure.

In the case of an adjacent fire, cool containers with water spray.

Portable containers should be removed if possible and without risk.

If possible, fight fire from protected position.

Consider evacuation.

Decomposition products may include nitrogen and carbon oxides.

6. ACCIDENTAL RELEASE MEASURES

Person related safety precautions:

Wear protective clothing as per section 8.

Shut off all ignition sources.

Measures for environmental protection:

Do not allow entering sewage and surface or ground water.

Measures for cleaning/collecting:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose of the materials collected according to regulations.

7. HANDLING AND STORAGE

Handling:

Information for safe handling:

Keep receptacle tightly closed in a cool well ventilated area. Do not breathe vapour.

Avoid contact with skin.

Wash thoroughly after use

Information about protection against explosions and fires:

Keep away from heat and sources of ignition – NO smoking

Keep away from oxidising substances.

Storage:

Requirements to be met by storerooms and receptacles:

Keep receptacle tightly closed in a cool well ventilated area.

Keep away from heat and sources of ignition – NO smoking

Information about storage in one common storage facility:

Keep away from oxidising substances..

Further information about storage conditions: None.

8. EXPOSURE CONTROLS / PERSONEL PROTECTION

Components with values that require monitoring at the workplace

Exposure limits:

27247-96-7 2-ethylhexyl nitrate

Exposure limit (in house) 1ppm 7,3 mg/m3 (8 hour TWA)

Can be absorbed through the skin.

Additional information:

The lists that were valid during the creation were used as basis.

Personal protective equipment

General protective and hygienic measures:

Keep away from foodstuffs, beverage and food.

Immediately wash all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Proper chemicals handling procedures should be adopted.

Breathing equipment: Wear approved respirator if exposure likely to exceed MEL/OES.

In poorly ventilated areas or confined spaces, use an airline respirator or self-contained breathing apparatus.

Hand protection: Wear neoprene gloves.

Eye protection: Wear face mask giving complete face protection.

Skin protection: Wear neoprene boots and apron

9. PHYSICAL AND CHEMICAL PROPERTIES

Form	Liquid	
Flashpoint	80°C	Method PMCC
Viscosity at 20°C	< 5 mPa.s	Brookfield
Density at 20°C	0,963 g/cm3	
Auto ignition point	130 °C	
Vapour pressure (37,8°C)	0,036 kPa	
Boiling point (range)	NA	
PH (1% -solution)	NA	
Freezing point	<-50 °C	

Solubility in water (20°C)	12,6 mg/l	
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10. STABILITY AND REACTIVITY

Thermal decomposition / conditions to be avoided:

When heated above 100 °C, may undergo a self-sustaining exothermic decomposition.
Decomposition products may include toxic and irritant fumes.

Dangerous reactions:

Incompatible with oxidizing substances.
Incompatible with acids and alkalis

Dangerous products of decomposition: Nitrogen and carbon oxides

11. TOXICOLOGICAL INFORMATION

Acute toxicity:

LD/LC50 values that are relevant for classification:

LD50 product: oral, rat > 10000 mg/kg

LD50 product: skin, rabbit > 5000 mg/kg

Sensitisation: (guinea pig): Negative

Mutagenicity (Ames test): Negative

Irritation to eyes (rabbit): Minor

Irritation to skin (rabbit): Minor

Can form methaemoglobin in the blood, causing cyanosis.

Vapours or aerosols may cause irritation of the eyes, nose and respiratory tract.

May cause dizziness, confusion, headache or stupor

Additional toxicological information:

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Harmful; Combustible

12. ECOLOGICAL INFORMATION

Information about elimination (persistence and degradability):

Not readily biodegradable

Aquatic toxicity:

LC50 (fish): 100 mg/l (96 hrs)

EC50 (daphnia): >12,6 mg/l (48 hrs)

IC50 (algae): > 12,6 mg/l (72 hrs)

IC50 (bacteria): > 100 mg/l (0,25 hr)

General notes:

Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water.

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into ground.

13. INSTRUCTIONS FOR DISPOSAL

Product recommendation:

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Uncleaned packing recommendations:

Disposal must be made to official regulations.

14. TRANSPORT INFORMATION

Transport/Additional information:

Land transport ADR/RID (cross-border):

ADR/RID class: 9 Environmentally hazardous liquid
UN-number: 3082
Packing group: III
Label: 9
Description of goods: Environmentally hazardous liquid, n.o.s. (2-ethylhexyl nitrate)

Maritime transport IMDG:

IMDG-class: 9 Environmentally hazardous liquid
UN number: 3082
Label: 9
Packing group: III
MFAG 235
Marine pollutant: Yes
Proper shipping name: Environmentally hazardous liquid, n.o.s.(2-ethylhexyl nitrate)

Air transport ICAO-TI and IATA-DGR:

ICAO/IATA-class: 9 Environmentally hazardous liquid
UN number: 3082
Label: 9
Packing group: III
Marine pollutant: Yes
Proper shipping name: Environmentally hazardous liquid, n.o.s.(2-ethylhexyl nitrate)

15. REGULATORY INFORMATION

Markings according to EU guidelines:

The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials

Code letter and hazard designation of product:

Xn Harmful

Risk phrases:

R-20/21 Harmful by inhalation and in contact with skin
R-44 Risk of explosion if heated under confinement

Safety phrases:

S-15 Keep away from heat
S-23 Do not breathe vapour/spray/mists
S-24/25 Avoid contact with skin and eyes
S-36/37/39 Wear suitable protective clothing and gloves

National regulations

Water hazard class:

Water hazard class 2 (Self-assessment): hazardous for water.

16. OTHER INFORMATION

Recommended use: diesel fuel cetane number improver

The data given here only applies when product is used for proper application(s). The product is not sold as suitable for other applications – usage in such may cause risks not mentioned in this sheet. Do not use for other application(s) without seeking advice from manufacturer.

Special handling instructions:

It is recommended that the product is handled in a closed system. Pumped transfers must take place under controlled conditions. All transfer valves must be opened before starting to pump. To prevent irreversible exothermic decomposition, use only pumps fitted with a thermal cut-out set to stop the pump if product temperatures exceed 50-60 °C. Heated transfer lines must not be used. Multi-product transfer lines must be cleared and pumps drained before and after product transfer.

Additional toxicological information:

2-ethylhexyl nitrate, similar to other nitrates, is known to produce vasodilatation by relaxing vascular smooth muscle) through inhalation or skin contact. The signs and symptoms of over-exposure to 2-ethylhexyl nitrate, resulting from vasodilatation of the blood vessels, includes reduced blood pressure, severe headaches, flushing, light headiness, transient dizziness or weakness, heart palpitations, nausea and fatigue. Individuals, who are on antihypertensive medication, may experience more severe symptoms following exposure. Alcohol is reported to enhance the toxicity of alkyl nitrates.

SAFETY DATA SHEET

Stadis (R) 450

1. Identification of the substance/preparation and company/undertaking

Identification of the substance or preparation

Product name : Stadis (R) 450
Product code : 10101
EINECS number : Mixture.
Product use : Fuel additive. Anti-static agents.
Supplier : Innospec Limited
Innospec Manufacturing Park
Oil Sites Road
Ellesmere Port
Cheshire CH65 4EY
United Kingdom

Telephone no. : +44 (0)151 355 3611
Fax no. : +44 (0)151 356 2349
e-mail address of person responsible for this SDS : sdsinfo@innospecinc.com
Emergency telephone number of the Company : +44 (0)151 355 3611 (24/7)

See section 16.

2. HAZARDS IDENTIFICATION

The product is classified as dangerous according to Directive 1999/45/EC and its amendments.

Classification : F; R11
Repr. Cat. 3; R63
Xn; R48/20, R65
Xi; R41
R66, R67
R52/53

Physical/chemical hazards : Highly flammable.
Human health hazards : Possible risk of harm to the unborn child. Harmful: danger of serious damage to health by prolonged exposure through inhalation. Harmful: may cause lung damage if swallowed. Risk of serious damage to eyes. Repeated exposure may cause skin dryness or cracking. Vapours may cause drowsiness and dizziness.

Environmental hazards : Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

See section 11 for more detailed information on health effects and symptoms.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/preparation : Preparation

Ingredient name	CAS number	%	EC number	Classification
toluene	108-88-3	30 - 60	203-625-9	F; R11 [1] [2] Repr. Cat. 3; R63 Xn; R48/20, R65 Xi; R38 R67
solvent naphtha (petroleum), heavy arom.	64742-94-5	15 - 30	265-198-5	Xn; R65 [1] [2] R66, R67 N; R51/53
naphthalenesulfonic acid, dinonyl-	25322-17-2	9.99 - 14.99	246-841-9	Xi; R41, R38 [1]
propan-2-ol	67-63-0	0.99 - 4.99	200-661-7	F; R11 [1] [2] Xi; R36 R67
Quaternary ammonium compound.	-	0.09 - 0.99	-	Xn; R22 [1] N; R50
methanol	67-56-1	0.09 - 0.99	200-659-6	F; R11 [1] [2] T; R23/24/25, R39/23/24/25
naphthalene	91-20-3	0.09 - 0.99	202-049-5	Carc. Cat. 3; [1] [2] R40 Xn; R22 N; R50/53
1,2,4-trimethylbenzene	95-63-6	0.09 - 0.99	202-436-9	R10 [1] [2] Xn; R20 Xi; R36/37/38 N; R51/53
See section 16 for the full text of the R-phrases declared above				

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

Occupational exposure limits, if available, are listed in section 8.

4. First-aid measures

First-aid measures

Inhalation

: Move exposed person to fresh air. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Ingestion

: Wash out mouth with water. Remove dentures if any. Move exposed person to fresh air. Keep person warm and at rest. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open

4. First-aid measures

airway. Loosen tight clothing such as a collar, tie, belt or waistband.

- Skin contact** : Wash skin thoroughly with soap and water or use recognised skin cleanser. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Obtain medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Eye contact** : Get medical attention immediately. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See section 11 for more detailed information on health effects and symptoms.

5. Fire-fighting measures

Extinguishing media

Suitable : Use dry chemical, CO₂, water spray (fog) or foam.

Not suitable : Do not use water jet.

Special exposure hazards : Highly flammable liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard.

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. This material is harmful to aquatic organisms. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
sulfur oxides

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental release measures

Personal precautions : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).

Environmental precautions : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material.

Methods for cleaning up : Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

7. Handling and storage

Handling

- Put on appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Avoid exposure during pregnancy. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.

Storage

- Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

Packaging materials

Recommended

- Use original container.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredient name

toluene

Occupational exposure limits

EH40/2005 WELs (United Kingdom (UK), 8/2007). Skin
 STEL: 384 mg/m³, 0 times per shift, 15 minute(s).
 TWA: 191 mg/m³, 0 times per shift, 8 hour(s).
 TWA: 50 ppm, 0 times per shift, 8 hour(s).
 STEL: 100 ppm, 0 times per shift, 15 minute(s).

solvent naphtha (petroleum), heavy arom.

Innospec Inc. (Europe, 2007).

TWA: 17 ppm, 0 times per shift, 8 hour(s).

propan-2-ol

EH40/2005 WELs (United Kingdom (UK), 8/2007).

STEL: 1250 mg/m³, 0 times per shift, 15 minute(s).
 STEL: 500 ppm, 0 times per shift, 15 minute(s).
 TWA: 999 mg/m³, 0 times per shift, 8 hour(s).
 TWA: 400 ppm, 0 times per shift, 8 hour(s).

methanol

EH40/2005 WELs (United Kingdom (UK), 8/2007). Skin

STEL: 333 mg/m³, 0 times per shift, 15 minute(s).
 STEL: 250 ppm, 0 times per shift, 15 minute(s).
 TWA: 266 mg/m³, 0 times per shift, 8 hour(s).
 TWA: 200 ppm, 0 times per shift, 8 hour(s).

naphthalene

EU OEL (Europe, 5/2006). Notes: Indicative

limit value 8 hours: 10 ppm, 0 times per shift, 8 hour(s).
 limit value 8 hours: 50 mg/m³, 0 times per shift, 8 hour(s).

1,2,4-trimethylbenzene

EH40/2005 WELs (United Kingdom (UK), 8/2007).

TWA: 25 ppm, 0 times per shift, 8 hour(s).
 TWA: 125 mg/m³, 0 times per shift, 8 hour(s).

Recommended monitoring procedures

- If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to European Standard EN 689 for methods for the assessment of exposure by inhalation to chemical agents and national guidance documents for methods for the determination of hazardous substances.

Exposure controls

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure controls	: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.
Hygiene measures	: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
Respiratory protection	: Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Recommended: full-face mask organic vapour filter (Type A)
Hand protection	: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. >8 hours (breakthrough time): Viton <1 hours (breakthrough time): nitrile rubber , polyvinyl alcohol (PVA)
Eye protection	: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. Recommended: splash goggles
Skin protection	: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Environmental exposure controls	: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9. Physical and chemical properties

General information

Appearance

Physical state	: Liquid. [Clear.]
Colour	: Amber. [Dark]
Odour	: Aromatic.
Odour threshold	:

Important health, safety and environmental information

Boiling point	: 90°C (194°F)
Pour point	: <-39°C
Flash point	: Closed cup: 6°C (42.8°F) [Pensky-Martens. ASTM D93]
Flammable limits	: Greatest known range: Lower: 2.3% Upper: 12.7% (propan-2-ol)
Vapour pressure	: <6.2 kPa (<46.5 mm Hg) (at 20°C)
Density	: 0.92 g/cm ³ [15°C (59°F)]
Specific gravity	: 0.92
Solubility	: Partially soluble in the following materials: cold water and hot water.
Viscosity	: Dynamic: >7 mPa·s (>7 cP) Kinematic: >0.07 cm ² /s (>7 cSt) Kinematic (40°C): 0.069 cm ² /s (6.9 cSt)
Vapour density	: Highest known value: 4.6 to 5.5 (Air = 1) (solvent naphtha (petroleum), heavy arom.). Weighted average: 3.71 (Air = 1)
Evaporation rate (butyl acetate = 1)	: Highest known value: 2 (toluene) Weighted average: 1.37 compared with Butyl acetate.
Auto-ignition temperature	: Lowest known value: 399°C (750.2°F) (propan-2-ol).

Stadis (R) 450

10. Stability and reactivity

- Stability** : The product is stable. Under normal conditions of storage and use, hazardous polymerisation will not occur.
- Conditions to avoid** : Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Avoid exposure during pregnancy. Do not swallow.
- Materials to avoid** : Highly reactive or incompatible with the following materials: oxidizing materials.
- Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. TOXICOLOGICAL INFORMATION

Potential acute health effects

- Inhalation** : Vapours may cause drowsiness and dizziness. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
- Ingestion** : Aspiration hazard if swallowed. Can enter lungs and cause damage.
- Skin contact** : Defatting to the skin. May cause skin dryness and irritation.
- Eye contact** : Severely irritating to eyes. Risk of serious damage to eyes.

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
toluene	LD50 Dermal	Rabbit	14100 uL/kg	-
	LD50 Oral	Rat	636 mg/kg	-
	LC50 Inhalation Vapour	Rat	26700 ppm	1 hours
solvent naphtha (petroleum), heavy arom.	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Rat	>2000 mg/kg	-
propan-2-ol	LD50 Dermal	Rabbit	12800 mg/kg	-
	LD50 Oral	Rat	5000 mg/kg	-
Quaternary ammonium compound. methanol	LD50 Oral	Rat	960 mg/kg	-
	LD50 Dermal	Rabbit	15800 mg/kg	-
	LD50 Oral	Rat	5628 mg/kg	-
	LC50 Inhalation Vapour	Rat	64000 ppm	4 hours
naphthalene	LD50 Dermal	Rat	>2500 mg/kg	-
	LD50 Oral	Rat	490 mg/kg	-
	LC50 Inhalation Vapour	Rat	>340 mg/m ³	1 hours
1,2,4-trimethylbenzene	LD50 Oral	Rat	5 g/kg	-

Potential chronic health effects

Chronic toxicity

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Stadis (R) 450	Skin - Primary dermal irritation index (PDII)	Rabbit	1.9	4 hours 0.5 ml	21 days

- Skin** : Slightly irritating to the skin.
- Eyes** : Severely irritating to eyes.
- Respiratory** : May cause respiratory irritation.
- Skin** : Sensitising properties of the product: Not available.

Carcinogenicity

- Conclusion/Summary** : Not available.

Mutagenicity

- Conclusion/Summary** : Not available.

Teratogenicity

Reproductive toxicity

- Conclusion/Summary** : Possible risk of harm to the unborn child.

Stadis (R) 450

11. TOXICOLOGICAL INFORMATION

- Chronic effects** : Harmful: danger of serious damage to health by prolonged exposure through inhalation. Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.
- Carcinogenicity** : No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.
- Teratogenicity** : May cause birth defects, based on animal data.
- Developmental effects** : No known significant effects or critical hazards.
- Fertility effects** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Inhalation** : Adverse symptoms may include the following:
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
- Ingestion** : Adverse symptoms may include the following:
nausea or vomiting
- Skin** : Adverse symptoms may include the following:
irritation
dryness
cracking
- Eyes** : Adverse symptoms may include the following:
pain or irritation
watering
redness
- Target organs** : Contains material which causes damage to the following organs: kidneys, liver, upper respiratory tract, skin, central nervous system (CNS), eye, lens or cornea.

12. ECOLOGICAL INFORMATION

- Environmental effects** : Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Aquatic ecotoxicity

Product/ingredient name	Test	Result	Species	Exposure
toluene	-	Acute EC50 6 mg/L	Daphnia - Daphnia magna	48 hours
	-	Acute LC50 5.8 mg/L	Fish - Oncorhynchus mykiss	96 hours
	-	Acute LC50 15.5 ppm Marine water	Crustaceans - Daggerblade grass shrimp - Palaemonetes pugio	48 hours
solvent naphtha (petroleum), heavy arom.	-	Acute EC50 3 to 10 mg/l	Daphnia	48 hours
	-	Acute EC50 1 to 3 mg/l	Algae	72 hours
	-	Acute LC50 2 to 5 mg/l	Fish	96 hours
propan-2-ol	-	Acute LC50 6550 mg/L	Fish - Pimephales promelas	96 hours
	-	Acute LC50 1400000 to 1950000 ug/L Marine water	Crustaceans - Common shrimp, sand shrimp - Crangon crangon	48 hours
Quaternary ammonium compound.	-	Acute EC50 0.06 mg/L	Algae	72 hours
methanol	-	Acute EC50 22200 to 23400 mg/L Fresh water	Daphnia - Water flea - Daphnia obtusa	48 hours
	-	Acute LC50	Fish - Lepomis	96 hours

Stadis (R) 450

12. ECOLOGICAL INFORMATION

	-	15400 mg/L	macrochirus	
	-	Acute LC50 3289 to 4395 mg/L	Daphnia - Water flea - Daphnia magna	48 hours
naphthalene	-	Acute EC50 1.96 mg/L	Daphnia - Water flea - Daphnia magna	48 hours
	-	Acute LC50 1.8 mg/L	Fish - Oncorhynchus mykiss	96 hours
1,2,4-trimethylbenzene	-	Acute LC50 7.72 mg/L	Fish - Pimephales promelas	96 hours
Stadis (R) 450	-	Acute LC50 12 mg/L	Fish - Minnows	96 hours

Conclusion/Summary : No additional remark.**Other ecological information****Biodegradability****Conclusion/Summary** : No additional remark.**Product/ingredient name****Aquatic half-life****Photolysis****Biodegradability**

toluene	-	-	Readily
solvent naphtha (petroleum), heavy arom.	-	-	Inherent
propan-2-ol	-	-	Readily


Bioaccumulative potential**Product/ingredient name****LogP_{ow}****BCF****Potential**

toluene	2.65	<100	low
solvent naphtha (petroleum), heavy arom.	>3	<100	high
propan-2-ol	0.05	-	low
naphthalene	3.3	>100	high
1,2,4-trimethylbenzene	4.09	275	high

Other adverse effects : No known significant effects or critical hazards.**13. Disposal considerations**




Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

Hazardous waste : The classification of the product may meet the criteria for a hazardous waste.**14. TRANSPORT INFORMATION****International transport regulations**

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
ADR/RID Class	UN1993	FLAMMABLE LIQUID, N.O.S. (toluene, propan-2-ol)	3	II		Hazard identification number 33 Limited quantity LQ4 CEPIC Tremcard 30GF1-I+II

Stadis (R) 450

14. TRANSPORT INFORMATION

ADNR Class	UN1993	FLAMMABLE LIQUID, N.O.S. (toluene, propan-2-ol)	3	II		-
IMDG Class	UN1993	FLAMMABLE LIQUID, N.O.S. (toluene, isopropanol)	3	II		Emergency schedules (EmS) F-E, _S-E_
IATA Class	UN1993	Flammable liquid, n.o.s. (toluene, isopropanol)	3	II		Passenger and Cargo Aircraft Quantity limitation: 5 L Cargo Aircraft Only Quantity limitation: 60 L Limited Quantities - Passenger Aircraft Quantity limitation: 1 L

Tunnel restriction code: D/E

PG* : Packing group

15. REGULATORY INFORMATION**EU regulations**

Classification and labeling have been determined according to EU Directives 67/548/EEC and 1999/45/EC (including amendments) and take into account the intended product use.

Hazard symbol or symbols :

Highly flammable, Harmful

Risk phrases

- : R11- Highly flammable.
R63- Possible risk of harm to the unborn child.
R48/20- Harmful: danger of serious damage to health by prolonged exposure through inhalation.
R65- Harmful: may cause lung damage if swallowed.
R41- Risk of serious damage to eyes.
R66- Repeated exposure may cause skin dryness or cracking.
R67- Vapours may cause drowsiness and dizziness.
R52/53- Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety phrases

- : S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36/37/39- Wear suitable protective clothing, gloves and eye/face protection.

Contains

- : toluene

Product use

- : Industrial applications.

Europe inventory

- : **Europe inventory:** All components are listed or exempted.

16. Other information**Full text of R-phrases referred to in sections 2 and 3 - United Kingdom (UK)**

- : R11- Highly flammable.
R10- Flammable.
R40- Limited evidence of a carcinogenic effect.
R63- Possible risk of harm to the unborn child.
R23/24/25- Toxic by inhalation, in contact with skin and if swallowed.
R39/23/24/25- Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.
R20- Harmful by inhalation.
R22- Harmful if swallowed.
R48/20- Harmful: danger of serious damage to health by prolonged exposure through inhalation.
R65- Harmful: may cause lung damage if swallowed.

Stadis (R) 450

16. Other information

R41- Risk of serious damage to eyes.
 R36- Irritating to eyes.
 R38- Irritating to skin.
 R36/37/38- Irritating to eyes, respiratory system and skin.
 R66- Repeated exposure may cause skin dryness or cracking.
 R67- Vapours may cause drowsiness and dizziness.
 R50- Very toxic to aquatic organisms.
 R50/53- Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
 R51/53- Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
 R52/53- Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Full text of classifications referred to in sections 2 and 3 - United Kingdom (UK) :

F - Highly flammable
 Carc. Cat. 3 - Carcinogen Category 3
 Repr. Cat. 3 - Toxic to reproduction Category 3
 T - Toxic
 Xn - Harmful
 Xi - Irritant
 N - Dangerous for the environment

History

Date of printing : June 17, 2009
Date of issue : June 17, 2009
Date of previous issue : June 30, 2008
Version : 1

Indicates information that has changed from previously issued version.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Information contact

Germany

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Fax no. +49 (0)2325 980 - 216

Spain

Telephone no. +34 667742948

Italy

Telephone no. +39 (02) 93 30 94 1

Fax no. Amministrativo: +39.02. 93.79.68.28
 Commerciale: +39.02.93.79.83.00

Emergency telephone number of official advisory body:

02-66101029

Hungary

Telephone no. +36 34 540572
Fax no. +36 34 540573

Sweden

Telephone no. +46 (0)54-19 00 12
Fax no. +46 (0)54-19 00 13

United Arab Emirates

Germany

Telephone no. +49 (0)3461 43 40 65
Fax no. +49 (0)3461 43 40 70

France

Telephone no. +33 (0)2.32.64.35.35
Fax no. +33 (0)2.32.51.43.24

Emergency telephone number of official advisory body:

+33 (0)1 45 42 59 59 (ORFILA)

Greece

Telephone no. +30 210 411 0727 / +30 210 411 0728
Fax no. +30 210 411 0748

Cyprus

Telephone no. +357 25762535
Fax no. +357 25762545

South Africa

Telephone no. +27 21 701 5340
Fax no. +27 21 701 6284

Stadis (R) 450

Telephone no. +971 4 3551900

Fax no. +971 4 3551866

United States

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Fax no. 1 303 792 5668

China

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Fax no. +86 10 6800 1261

Republic of Korea

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Fax no. +82 31 715 4903

United States

Telephone no. 1 302 454 8100

Fax no. 1 302 451 1380

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Singapore

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Material Safety Data Sheet

HiTEC 4140A Fuel Additive

MSDS no.

H4140A

HiTEC is a trademark owned by Afton Chemical Corporation or one of its subsidiaries.

1. Product and company identification

Product use

Petrochemical industry: Diesel Fuel Lubricity Additive

Date of issue/Revisions

17 December 2009

In case of emergency - Chemical

+1-800-403-0044 (US & Canada)
+1-804-648-7727 (International)
+32-2-507-20-64 (Europe)
+81-3-5210-4890 (Japan)

Manufacturer / Supplier

Afton Chemical Corporation
500 Spring St.
Richmond, VA 23219
+1-804-788-5800

Afton Chemical Limited
Euro-Tech Centre
London Road, Bracknell, Berkshire
RG12 2UW, England
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msds@aftonchemical.com

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Sumitomo Fudousan Sanbancho Bldg. 5F
6-26 Sanbancho, Chiyoda-ku
Tokyo 102-0075 Japan
Emergency phone: +81-3-5210-4890

In Australia:
Afton Chemical Asia Pacific Company
Level 9, 20 Berry Street
North Sydney, NSW 2060
Australia
Telephone number: +02-9923-1588
Business Hours: 9:00am - 5:00pm

2. Hazards identification

Notice to reader

Afton operates a world-wide system for hazard communication. Some hazards shown in Section 2 may apply to non-EU countries and may not result in classification and labeling in the EU. Please see Sections 3 and 15 for country specific classification information, and Section 11 for additional details.

Europe: The product is not classified as dangerous according to Directive 1999/45/EC and its amendments.

Australia: NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

Primary hazards and critical effects : NOTICE!

Environmental hazards : Not classified as dangerous for the environment according to EC criteria.

**Hazardous Material
Information System
(U.S.A.)**

Health	0
Fire hazard	1
Reactivity	0

GHS Classification

Hazard classification : Not regulated.

Symbol :

Signal word :

Hazard statements : No known significant effects or critical hazards.

Precautionary statements

- Prevention** : Not applicable.
- Response** : Not applicable.
- Storage** : Not applicable.
- Disposal** : Not applicable.

3. Composition/information on ingredients

Note: see section 8 for occupational exposure limits and section 11 for LC50/LD50 information

Substance/Preparation : Substance

<u>Ingredient name</u>	<u>CAS no.</u>	<u>Conc. (% w/w)</u>	<u>EU Classification</u>	<u>WHMIS Regulated?</u>
Tall oil fatty acid	61790-12-3	90 - 100	Non hazardous	no

4. First aid measures

- Inhalation** : If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if symptoms appear.
- Ingestion** : If affected person is fully conscious, give one glass of water to drink. Never give anything by mouth to an unconscious person. Get medical attention if symptoms appear.
- Skin contact** : Wash with soap and water. Get medical attention if irritation develops.
- Eye contact** : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.

5. Fire-fighting measures

- Extinguishing media** : In case of fire, use water spray (fog), foam, dry chemical or CO₂.
- Fire-fighting procedures** : Fire-fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.
- Hazardous decomposition products** : Decomposition products may include the following materials: carbon oxides (CO, CO₂)
- Flash point** : Closed cup: 100°C (212°F). (Pensky-Martens.)

6. Accidental release measures

- Personal precautions** : Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment (section 8). Follow all fire-fighting procedures (section 5).
- Environmental precautions and clean-up methods** : If emergency personnel are unavailable, contain spilled material. For small spills, add absorbent (soil may be used in the absence of other suitable materials) and use a non-sparking or explosion-proof means to transfer material to a sealable, appropriate container for disposal. For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Place spilled material in an appropriate container for disposal. Avoid contact of spilled material with soil and prevent runoff entering surface waterways.

Note: see section 1 for emergency contact information and section 13 for waste disposal.

7. Handling and storage

- Handling** : Wash thoroughly after handling.
- Storage** : Keep container tightly closed. Keep container in a well-ventilated area.

8. Exposure controls/personal protection

- Engineering controls** : Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.
- Personal protective equipment**
- Respiratory system** : Use appropriate respiratory protection if there is the potential to exceed the exposure limit(s).
 - Skin and body** : Disposable outer garments when there is a risk of contact with the material.
 - Hands** : Use chemical-resistant, impervious gloves.
 - Eyes** : Safety glasses with side shields. Goggles with a face shield may be necessary depending on quantity of material and conditions of use.

Occupational exposure limits

<u>Ingredient name</u>	<u>OEL United States</u>	<u>OEL Canada</u>	<u>OEL Europe</u>	<u>OEL Australia</u>
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1) Exposure limit not established.

9. Physical and chemical properties

Physical state and Appearance	: Liquid.
Color	: Amber. (Light.)
Odor	: Slight.
Density	: 0.91 g/cm³ at 15°C
Solubility	: Insoluble in the following materials: cold water.
Viscosity	: 17 cSt at 40°C (target). Not available.
Auto-ignition temperature	: Not determined.
Flash point	: Closed cup: 100°C (212°F). (Pensky-Martens.)

10. Stability and reactivity

Stability	: The product is stable.
Materials to avoid	: Strong oxidizing and reducing agents.
Conditions to avoid	: High temperatures, sparks, and open flames.

11. Toxicological information

Routes of entry	: Skin, Eyes, Ingestion, and Inhalation.
Target organs	: None known.
Acute effects	
Inhalation	: Not determined.
Ingestion	: Not determined.
Skin contact	: Non-irritating to the skin. Based on test data for this or similar products. In one study, a similar product was found to cause skin sensitization in guinea pigs. A similar product was not found to be a skin sensitizer in adult human males.
Eye contact	: Non-irritating to the eyes. Based on test data for this or similar products.
Adverse effects	: Not determined.

Carcinogenic effects	:	ACGIH	IARC	EPA	NIOSH	NTP	OSHA	EU
Product/ingredient name	Not classified or listed by IARC, NTP, OSHA, EU and ACGIH.							

Toxicity data

Product/ingredient name	Result	Species	Dose	Exposure
Not determined.				

Other information	: Not available.
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12. Ecological information

Environmental hazards	: Not classified as dangerous for the environment according to EC criteria. Based on calculation.
Environmental fate	: This product contains components which may be persistent in the environment.
Germany water class	: 1

13. Disposal considerations

Waste handling and disposal : Waste must be disposed of in accordance with federal, state and local environmental control regulations.

European waste catalogue (EWC) Number : 13-08-99

14. Transport information

Regulatory information	UN number	Proper shipping name	Class	Packing group	Label	Additional information
DOT Classification	Not regulated.	-	-	-		-
TDG Classification	Not regulated.	-	-	-		-
ADR/RID Class	Not regulated.	-	-	-		-
IMDG Class	Not regulated.	-	-	-		-
IATA-DGR Class	Not regulated.	-	-	-		-
ADG Class	Not regulated.	-	-	-		-

Notice to reader

The above transport information is provided to assist in the proper classification of this product and may not be suitable for all shipping conditions.

15. Regulatory information

EU regulations

Risk phrases : This product is not classified according to EU legislation.

Safety phrases : Not applicable.

US regulations

SARA 313 toxic chemical notification and release reporting (w/w%) : No SARA 313 chemicals are present above the reporting threshold.

SARA 311/312 Hazardous Categorization : SARA 311/312 MSDS distribution - chemical inventory - hazard identification: No products were found.

RQ (Reportable quantity) : CERCLA: Hazardous substances.: No products were found.

State - California Prop. 65 : Does not contain any California Prop 65. chemicals

Canadian regulations

WHMIS (Classification) : Not controlled under WHMIS (Canada).

International Inventory Status

United States (TSCA) : All components are listed or exempted.

Canada : All components are listed or exempted.

Europe : All components are listed or exempted.

Japan (ENCS) : All components are listed or exempted.

Australia (NICNAS) : All components are listed or exempted.

Korea (ECL) : All components are listed or exempted.

China (IECSC) : All components are listed or exempted.

Philippines (PICCS) : All components are listed or exempted.

16. Other information

PREPARATION INFORMATION

Validated by HS&E Department (Tel: +1 804 788 5800) on 12/17/2009.



Date of printing : 12/17/2009.

Indicates information that has changed from previously issued version.

Notice to reader

This information and these recommendations are offered in good faith and believed to be correct as of the date hereof. Information and recommendations are supplied upon the condition that the recipients will make their own decision as to safety and suitability for their purposes. No representations or warranties, either expressed or implied, of merchantability, fitness for a particular purpose, or of any other nature, are made with respect to the product or the information and recommendations. Afton makes no representation as to completeness or accuracy. In no event will Afton be responsible for damages of any nature whatsoever resulting from the use or reliance upon the information and recommendations.

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6-26 Sanbancho, Chiyoda-ku
Tokyo 102-0075 Japan
Emergency phone: +81-3-5210-4890

In Australia:
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Australia
Telephone number: +02-9923-1588
Business Hours: 9:00am - 5:00pm

*** END OF MSDS ***



Product Name: Infineum R650

Revision Date: 03 Apr 2010

Page 1 of 8

SAFETY DATA SHEET

SECTION 1

PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: Infineum R650
Product Description: Petroleum Product Additive
Product Code: 38474100
Intended Use: Fuel additive

COMPANY IDENTIFICATION

Supplier: INFINEUM UK LIMITED
P. O. Box 1
Milton Hill
Abingdon
Oxfordshire OX13 6BB United Kingdom

24 Hour Environmental / Health Emergency Telephone 01235-549777 (+44-01235-549777)

Supplier General Contact

01235-54-9911

E-Mail

SDS@Infineum.com

This SDS is a generic document based on the EU Safety Data Sheet requirements for this material. No country specific information is included.

SECTION 2

HAZARDS IDENTIFICATION

This material is not considered to be hazardous according to regulatory guidelines see Section 15.

HEALTH HAZARDS

May be irritating to the eyes, nose, throat, and lungs. Excessive exposure may result in eye, skin, or respiratory irritation.

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 3

COMPOSITION / INFORMATION ON INGREDIENTS

No Reportable Hazardous Substance(s) or Complex Substance(s).

SECTION 4

FIRST AID MEASURES



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INHALATION

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT

Wash contact areas with soap and water. Remove contaminated clothing. Launder contaminated clothing before reuse.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION

Give one or two glasses of water if patient is alert and able to swallow. Seek immediate medical attention. Do not induce vomiting.

SECTION 5

FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO₂) to extinguish flames.

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. Prevent run-off from fire control or dilution from entering streams, sewers or drinking water supply. Fire-fighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Hazardous Combustion Products: None.

FLAMMABILITY PROPERTIES

Flash Point [Method]: >110C (230F) [ASTM D-92]

Flammable Limits (Approximate volume % in air): LEL: N/D UEL: N/D

Autoignition Temperature: >300°C (572°F)

SECTION 6

ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

SPILL MANAGEMENT

Land Spill: Stop leak if you can do so without risk. Recover by pumping or with suitable absorbent.

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Water Spill: Stop leak if you can do so without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Dyke far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7

HANDLING AND STORAGE

HANDLING

Avoid all personal contact. Avoid contact with skin. Prevent small spills and leakage to avoid slip hazard. Products may load from Infineum manufacturing site above the standard loading/unloading range.

Loading/Unloading Temperature: 20°C (68°F) - 40°C (104°F)

Transport Temperature: N/D

Transport Pressure: [Ambient]

Static Accumulator: This material is not a static accumulator.

STORAGE

Do not store in open or unlabelled containers.

Storage Temperature: 20°C (68°F) - 40°C (104°F)

Storage Pressure: [Ambient]

Suitable Containers/Packing: Drums; Tank Trucks; Tank Cars

Suitable Materials and Coatings (Chemical Compatibility): Carbon Steel

SECTION 8

EXPOSURE CONTROLS / PERSONAL PROTECTION

Note: Information about recommended monitoring procedures can be obtained from the relevant agency(ies)/institute(s):

UK Health and Safety Executive (HSE)

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions.



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Control measures to consider:

No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

No protection is ordinarily required under normal conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapour warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

If prolonged or repeated contact is likely, chemical-resistant gloves are recommended. If contact with forearms is likely, wear gauntlet-style gloves.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

If prolonged or repeated contact is likely, chemical, and oil resistant clothing is recommended.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

See Sections 6, 7, 12, 13.

SECTION 9

PHYSICAL AND CHEMICAL PROPERTIES

Typical physical and chemical properties are given below. Consult the Supplier in Section 1 for additional data.

GENERAL INFORMATION

Physical State: Liquid

Colour: Yellow



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Odour: N/D

Odour Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density: N/D

Density (at 15 °C): 895 kg/m³ (7.47 lbs/gal, 0.9 kg/dm³)

Flash Point [Method]: >110°C (230°F) [ASTM D-92]

Flammable Limits (Approximate volume % in air): LEL: N/D UEL: N/D

Autoignition Temperature: >300°C (572°F)

Boiling Point / Range: 220°C (428°F)

Vapour Density (Air = 1): N/D

Vapour Pressure: [Negligible]

Evaporation Rate (n-butyl acetate = 1): [Negligible]

pH: N/D

Log Pow (n-Octanol/Water Partition Coefficient): N/D

Solubility in Water: Negligible

Viscosity: 17 cSt (17 mm²/sec) at 40°C | 35 cSt (35 mm²/sec) at 20°C

Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION

Freezing Point: N/D

Melting Point: N/D

Pour Point: 5°C (41°F)

Hygroscopic: No

Coefficient of Thermal Expansion: 0.00069 %

SECTION 10

STABILITY AND REACTIVITY

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Excessive heat.

MATERIALS TO AVOID: N/D

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11

TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

<u>Route of Exposure</u>	<u>Conclusion / Remarks</u>
Inhalation	
Toxicity: LC50 > 5 mg/l	Minimally Toxic.
Irritation: No end point data.	Elevated temperatures or mechanical action may form vapours, mist, or fumes which may be irritating to the eyes, nose, throat, or lungs.
Ingestion	



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Toxicity: LD50 > 2000 mg/kg	Minimally Toxic.
Skin	
Toxicity: LD50 > 2000 mg/kg	Minimally Toxic.
Irritation: No end point data.	Mildly irritating to skin with prolonged exposure.
Eye	
Irritation: No end point data.	May cause mild, short-lasting discomfort to eyes.

Additional information is available by request.

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Not expected to be harmful to aquatic organisms.

PERSISTENCE AND DEGRADABILITY

Biodegradation:

Material -- Expected to be readily biodegradable.

OTHER ECOLOGICAL INFORMATION

COD (mgO₂/gm): 480 mgO₂/gm

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

REGULATORY DISPOSAL INFORMATION

European Waste Code: 13 07 XX

NOTE: These codes are assigned based upon the most common uses for this material and may not reflect contaminants resulting from actual use. Waste producers need to assess the actual process used when generating the waste and its contaminants in order to assign the proper waste disposal code(s).

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Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14	TRANSPORT INFORMATION
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LAND (ADR/RID): Not Regulated for Land Transport

INLAND WATERWAYS (ADNR/ADN): Not Regulated for Inland Waterways Transport

SEA (IMDG): Not Regulated for Sea Transport according to IMDG-Code

AIR (IATA): Not Regulated for Air Transport

SECTION 15	REGULATORY INFORMATION
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Material is not dangerous as defined by the EU Dangerous Substances/Preparations Directives.

EU LABELING: Not regulated according to EC Directives

REGULATORY STATUS AND APPLICABLE LAWS AND REGULATIONS

NATIONAL CHEMICAL INVENTORY LISTING: AICS, IECSC, DSL, EINECS, ENCS, KECI, PICCS, TSCA

SECTION 16	OTHER INFORMATION
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N/D = Not determined, N/A = Not applicable

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:

Revision Changes:

Section 11: Acute Toxicity Table Header was modified.

Section 09: Colour was modified.

Section 11: Ingestion Acute Lethality - Header was modified.

Section 11: Inhalation - Header was modified.



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Section 09: Evaporation Rate - Header was modified.
Section 07: Handling and Storage - Handling was modified.
Section 07: Suitable Materials and Coatings - Header was modified.
Section 07: Materials/Coatings - Suitable was modified.
Section 06: Accidental Release - Spill Management - Water was modified.
Section 09: Viscosity was modified.
Section 09: Viscosity was modified.
Section 14: Land (ADR/RID) - Header was modified.
Section 14: Inland Waterways (ADNR) - Header was modified.
Section 14: Sea (IMDG) - Header was modified.
Section 14: Air (IATA) - Header was modified.
Section 14: Sea (IMDG) - Default was modified.
Section 14: Air (IATA) - Default was modified.
Section 14: LAND (ADR) - Default was modified.
Section 14: INLAND WATERWAYS (ADNR) - Default was modified.
Hazard Identification: Hazards Note was modified.
Section 09: Oxidizing Properties was modified.
Section 01: Company Contact Methods Sorted by Priority was modified.
Section 08: Environmental Control - Note was added.

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Internal Use Only

MHC: 0, 0, 0, 0, 2, 1

DGN: 6008710 (1004248)

MATERIAL SAFETY DATA SHEET

SECTION 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Trade name: SR - 1650

Use of the substance/preparation.

Industry sector: Exploration and Refinery

Type of use: Cold Flow Improver

Synonyms: Not Established

Identification of the company

Dorf Ketal Chemicals India Pvt Ltd
1, Dorf Ketal Tower, Dmonte St.
Orlem, Malad West, Mumbai 400064, India
Tel +91-222-8833-900

Product Information: Telephone +91-222-8833-900

Product Emergencies

Dorf Ketal Chemicals (I) Pvt. Ltd.

#1 DORF KETAL TOWERS.

D'Monte Street, Marve Road.

Malad (W).Bombay 64.

Tel.: +91-22-28813654 / +91-22-28828374.

Fax : +91-22-28882366

Dorf Ketal LLC

3727 Greenbriar

Suite 114,

Stafford, TX 77477

Tel : 281 491 3700

Fax : 281 491 3700

SECTION 2. COMPOSITIN/INFORMATION ON INGREDIENTS

Chemical Characterization: Polymer composition in hydrocarbon solvents.

Hazardous ingredients

Component	Composition	CAS No	EINECS	SYM	R-PHRASES
Aromatic Hydrocarbons (Solvent)	<65%	64742-91-2	265-194-3	Xn	R-22,R45, R65
1,2,4-trimethylbenzene	<5%	95-63-6	202-436-9	Xn	R-10,20,36/37/38
Naphthalene	<3%	91-20-3	202-049-5	Xn	R-22,36/37,40
Mesitylene	<1%	108-67-8	203-604-4	Xi, N	R-10-37-51/53

Text for R-Phrases Shown in Section – 16

Exposure Limits

Ingredient

MAK

OEL-TWA(EH40/98)

ACGIH TLV-TWA(1997)

Aromatic Hydrocarbons

N/E

500mg/m³

N/E

1,2,4-trimethylbenzene

N/E

500mg/m³

25 ppm, 123mg/m³

Naphthalene

10 ppm, 50mg/m³

10 ppm, 53 mg/m³

10 ppm, 52mg/m³

STEL 15ppm, 79mg/m³

Mesitylene (125mg/m³, 25 ppm)

SECTION 3. HAZARD IDENTIFICATION

Hazard description:



Xn Harmful

Information concerning particular hazards for human and environment:

R 40 Limited evidence of a carcinogenic effect.

R 65 Harmful: may cause lung damage if swallowed.

R 66 Repeated exposure may cause skin dryness or cracking.

R 67 Vapors may cause drowsiness and dizziness.

Classification system: The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

Warning: 3.1/4 - Harmful if swallowed.

3.1/4 - Harmful if inhaled.

3.2/2 - Causes skin irritation.

3.3/2A - Causes serious eye irritation.

3.8/3 - May cause respiratory irritation. May cause drowsiness or dizziness.

Prevention: Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Keep container tightly closed.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting/ equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Avoid breathing dust/fume/gas/mist/vapors/spray.

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Use only outdoors or in a well-ventilated area.

Avoid release to the environment.

Wear protective gloves/protective clothing/eye protection/face protection.

Use personal protective equipment as required.

Response: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

IF ON SKIN: Wash with plenty of soap and water.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

IF exposed or concerned: Get medical advice/attention.

Call a POISON CENTER or doctor/physician if you feel unwell.

Specific treatment (see label).

Rinse mouth.

Do NOT induce vomiting.

If skin irritation occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

Take off contaminated clothing and wash before reuse.

In case of fire: Use for extinction: CO₂, powder or water spray.

Collect spillage.

Storage: Store in a well-ventilated place. Keep container tightly closed.

Store in a well-ventilated place. Keep cool.

Store locked up.

Disposal: Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION 4. FIRST AID MEASURES

Eye contact: Rinse immediately with plenty of water for 15 minutes.

Consult a doctor/medical service if irritation persists.

Skin contact: Use waterless hand cleaner.

Then wash with lots of water and soap.

Consult a doctor/medical service if irritation persists.

After inhalation: Unconscious: maintain adequate airway and respiration.

Remove the victim into fresh air.

Consult medical service if breathing problems develop.

After ingestion: Never give water to an unconscious person.

Do not allow vomiting.

Consult a doctor/medical service if you feel unwell.

SECTION 5. FIRE-FIGHTING MEASURES

See Section 7 for proper handling and storage

NFPA Ratings: Health: 1

Flammability: 1

Reactivity: 0

FLAMMABLE PROPERTIES

Flash Point: ≥ 50 deg C (Estimated)

Auto-ignition: NDA

Flammability (Explosive) Limits (% by volume in air):

Lower: NDA

Upper: NDA

Suitable extinguishing media: Water spray.
Polyvalent foam.
BC powder.
Carbon dioxide.

Unsuitable extinguishing media: No data available.

Fire Fighting Instructions: Caution! Combustible. Clear fire area of all non-emergency personnel. Only enter confined fire space with full bunker gear, including a positive pressure, NIOSH-approved, self contained breathing apparatus. Cool surrounding equipment. Container areas exposed to direct flame contact should be cooled with large quantities of water (500 gallons water/min flame impingement exposure) to prevent weakening of container structure. For fires involving this material, do not enter any enclosed or confined fire space with out proper protective equipment, including self contained breathing apparatus.

Combustion Products: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids and gases including carbon monoxide, carbon dioxide and unidentified organic compounds will be evolved when this material undergoes combustion.

Special exposure hazards: Involving a fire hazard.

On heating/burning: release of toxic and corrosive gases/vapors (nitrous vapours, carbon monoxide, carbon dioxide.

Special protective equipment: Heat/fire exposure: compressed air/oxygen apparatus.

Heat/fire exposure: gas-tight suit.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal protection: See Section No 8.

Environmental precautions: Collect/pump leaking substance into suitable containers.

Plug the leak, cut off the supply.

Clean-up: Take up liquid spill into adsorbent material, e.g.: sand, earth, vermiculite.

Scoop adsorbed substance into closing containers.

Clean contaminated surfaces with an excess of water.

Wash clothing and equipment after handling.

SECTION 7. HANDLING AND STORAGE

Handling: Reduce/avoid exposure and/or contact.

Keep container tightly closed.

Clean contaminated clothing.

Comply with the legal requirements.

Storage: Store in a cool and well-ventilated area.

Store out of direct sunlight.

Keep away from: heat sources, oxidizing agents, reducing agents.

Storage temperature: Not determined.

Materials for packaging: Suitable: N. D. A.

To avoid: N. D. A.

SECTION 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Limits

<u>Ingredient</u>	<u>MAK</u>	<u>OEL-TWA(EH40/98)</u>	<u>ACGIH TLV-TWA(1997)</u>
Aromatic Hydrocarbons	N/E	500mg/m ³	N/E
1,2,4-trimethylbenzene	N/E	500mg/m ³	25 ppm, 123mg/m ³
Naphthalene	10 ppm, 50mg/m ³	10 ppm, 53 mg/m ³	10 ppm, 52mg/m ³
			STEL 15ppm, 79mg/m ³

Mesitylene (125mg/m³, 25 ppm)

Recommended monitoring procedures: If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Occupational exposure controls: If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Hygiene measures: Wash hands, forearms and face thoroughly after handling compounds and before eating, smoking and using the lavatory and at the end of the day. During formulation, follow good industrial hygiene practice.

Eye protection: Safety glasses.

Skin protection: Lab coat.

Respiratory protection: A respirator is not needed under normal and intended conditions of product use.

Hand protection: Natural rubber (latex).



Environmental exposure controls: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9. TYPICAL PHYSICAL AND CHEMICAL PROPERTIES

Typical physical and chemical properties are given below. Consult the Supplier in Section 1 for additional data.

Physical State: Clear to slight hazy Liquid

Relative Density (at 15.5 °C): N. A.

Density (at 15.6 °C): 0.85 - 0.98 [ASTM D 1298]

Flash Point [Method]: ≥ 50 °C

Flammable Limits (Approximate volume % in air): LEL: 0.8 UEL: 5.9 (for solvent)

Auto-ignition Temperature: N. A.

Boiling Point / Range: N. A.

Vapor Density (Air = 1): N. A.

Vapor Pressure: N. A.

Evaporation Rate (n-butyl acetate = 1): N. A.

pH: NA

Log Pow (n-Octanol/Water Partition Coefficient): N.D.

Solubility in Water: N.D.

K. Viscosity @ 40 °C: 25 - 75 cSt

Pour Point: Below 15 °C

Molecular Weight: NA

Hygroscopic: No

Coefficient of Thermal Expansion: NA

SECTION 10. STABILITY AND REACTIVITY

Stability: Stable under normal conditions.

Reactivity/Hazardous decomposition products: On heating/burning: release of toxic and corrosive gases/vapors (nitrous vapors, carbon monoxide, carbon dioxide). Can reacts with (some) acids. Can reacts with (some) bases.

Conditions/materials to avoid: Keep away from: heat sources, oxidizing agents, reducing agents.

SECTION 11. TOXICOLOGICAL INFORMATION

Inhalation: No known significant effects or critical hazards.

Ingestion: Aspiration hazard if swallowed. Can enter lungs and cause damage.

Skin contact: No known significant effects or critical hazards.

Eye contact: No known significant effects or critical hazards.

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Solvent naphtha (petroleum), heavy aromatic	LD50 Dermal	Rabbit	>2 mL/kg	-
Naphthalene	LD50 Dermal	Rabbit	>20 g/kg	-
	LD50 Dermal	Rat	>2500 mg/kg	-
	LD50 Oral	Rat	>490 mg/kg	-
1,2,4-Trimethylbenzene	LD50 Oral	Rat	5 g/kg	-

Chronic effects: No known significant effects or critical hazards.

Carcinogenicity: May cause cancer, based on animal data. Limited evidence of a carcinogenic effect. Risk of cancer depends on duration and level of exposure.

Mutagenicity No known significant effects or critical hazards.

Teratogenicity: No known significant effects or critical hazards.

Developmental effects: No known significant effects or critical hazards.

Fertility effects: No known significant effects or critical hazards.

Over-exposure signs/symptoms

Ingestion: Adverse symptoms may include: nausea or vomiting

Inhalation: No specific data.

Skin: No specific data.

Eyes: No specific data.

SECTION 12. ECOLOGICAL INFORMATION

Mobility: Slightly Volatile.
 Insoluble in water.

Biodegradation:
 Soil : T $\frac{1}{2}$: Not determined days
 BOD₅ : Not determined g O₂/g substance
 COD : Not determined g O₂/g substance
 Water : No data available

Bioaccumulation:
 log P_{ow} : Not determined
 BCF : Not determined

Aquatic toxicity : No data available





Naphthalene : LC50 (96h): 7.72 mg/l (PIMEPHALES PROMELAS)
 LC50 (48h): 3.6 mg/l (DAPHNIA MAGNA)
 EC50 (72h): 1 mg/l (ALGAE)

Other information:
 WGK : Not determined
 Effect on the ozone layer : Not determined
 Waste water purification : Not determined

SECTION 13. WASTE DISPOSAL INFORMATION

Provisions relating to waste: Hazardous waste (91/689/EEC).
Disposal methods: To be disposed of as hazardous waste.
 Landfill or incinerate at an approved site in accordance with national and local regulations.

SECTION 14. TRANSPORTATION INFORMATION

Regulatory Information	UN No.	Proper Shipping Name	Classes	PG	Label	Additional Information
ADR/RID class	UN 3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (1,2,4-trimethylbenzene	9	III		---
ADNR Class	UN 3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (1,2,4-trimethylbenzene	9	III		---
IMDG Class	UN 3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (1,2,4-trimethylbenzene	9	III		---
IATA Class	UN 3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (1,2,4-trimethylbenzene	9	III		---

SECTION 15. REGULATORY INFORMATION

EU regulations

Hazard symbol or symbols



Classification: Harmful, Dangerous for the environment
 Contains: naphthalene
 Product use: Industrial applications.
 All components of this preparation are included in EINECS/ELINCS.
 Labeling in accordance with EC directives 67/548/EEC and 88/379/EEC
Contains: Aromatic hydrocarbons.

Risk Phrases

R10 Flammable. R20 Harmful by inhalation. R22 Harmful if swallowed R36 Irritating to eyes. R37 Irritating to respiratory system. R38 Irritating to skin. R40 Limited evidence of a carcinogenic effect. R45 May cause cancer. R65 Harmful: may cause lung damage if swallowed. R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.	S2 Keep out of the reach of children S24 Avoid contact with skin S25 Avoid contact with eyes S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S62 If swallowed do not induce vomiting, seek medical advice immediately and show this container or label. S36/37 Wear suitable protective clothing and gloves.
--	---

EU Symbol: Xn - Harmful

SECTION 16. OTHER INFORMATION

HMIS™ – Hazardous Material Information System:

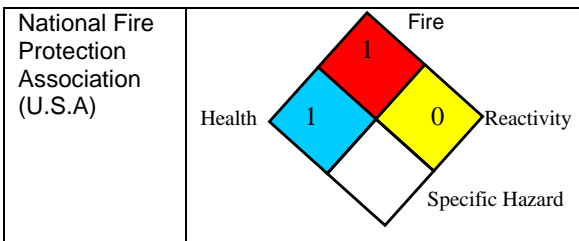
HMIS™ Ratings: 0-minimal hazard, 1-slight hazard, 2-moderate hazard, 3-serious hazard, 4-severe hazard

HEALTH: 1

FLAMMABILITY: 1

REACTIVITY: 0

Health	1
Fire Hazard	1
Physical Hazard	0
Personal Protection	C



Abbreviations that may have been used in this document.

TLV : Threshold Limit Value STEL : Short term Exposure Limit ACGIH : American Conference of Government Industrial Hygienists NIOSH : National Institute for Occupational Safety & Health WHMIS : Workplace Hazardous Materials Information System EINECS : European Inventory of existing Commercial Chemical Substances SARA : Superfund Amendments and Reauthorization Act. EC50 : Effective Concentration LD50 : Lethal Dose ND : No Data Available <= : Less Than or Equal to CNS : Central Nervous System	TWA : Time Weighted Average PEL : Permissible Exposure Limit OSHA : Occupational Safety & Health Administration NFPA : National Fire Protection Agency IARC : International Agency for Research on Cancer RCRA : Resource Conservation Recovery Act TSCA : Toxic Substance Control Act LC50 : Lethal Concentration CAS : Chemical Abstract Service NA : Not Application >= : Greater Than or Equal To MAK : Germany Maximum Concentration Value OEL : Occupational Exposure Limits EH40, UK G : Total Dust F : Fine Dust
--	--

Decimal notation: "Thousands" places are identified with a dot (example: 2.000 mg/kg means "two thousand mg/kg"). Decimal places are identified with a comma (example: 1,35g/cm3).

This data sheet is prepared according to the latest adaptation of the (EC) No1907/2006

This data sheet is prepared according to the OSHA Hazard Communication Standard (29 CFR 1910.1200).

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END OF MSDS

MATERIAL SAFETY DATA SHEET

Section 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Trade name: SR - 1690

Use of the substance/preparation.

Industry sector: Exploration and Refinery

Type of use: Cold Flow Improver

Synonyms: Not Established

Identification of the company

Dorf Ketal Chemicals India Pvt Ltd

1, Dorf Ketal Tower, Dmonte St.

Orlem, Malad West, Mumbai 400064, India

Tel +91-222-8833-900

Product Information: Telephone +91-222-8833-900

Product Emergencies

Dorf Ketal Chemicals (I) Pvt. Ltd.

#1 DORF KETAL TOWERS.

D'Monte Street, Marve Road.

Malad (W).Bombay 64.

Tel.: +91-22-28813654 / +91-22-28828374.

Fax : +91-22-28882366

Dorf Ketal LLC

3727 Greenbriar

Suite 114,

Stafford, TX 77477

Tel : 281 491 3700

Fax : 281 491 3700

Section 2. COMPOSITIN/INFORMATION ON INGREDIENTS

Chemical Characterization: Polymer composition in hydrocarbon solvents.

Hazardous ingredients

Component	Composition	CAS No	EINECS	SYM	R-PHRASES
Aromatic Hydrocarbons (Solvent)	55 – 75 %	64742-95-6	265-194-3	Xn	R-22,R45, R65
1,2,4-trimethylbenzene	≥ 6 to < 18 %	95-63-6	202-436-9	Xn, N	R-10,20,36/37/38
1,3,5-Trimethyl benzene	< 6%	108-67-8	203-604-4	Xi, n	R-10-37-51/53
1,2,3-Trimethyl benzene	< 6%	526-73-8	208-394-8	---	---
n-Propyl benzene	< 6%	103-65-1	203-132-9	Xn, N	R10; R37; R51/53; R65
Cumene	< 6%	98-82-8	202-704-5	Xn, N	R10; R37; R51/53; R65
Xylene, Mixed Isomers	≥ 6 to < 18 %	1330-20-7	215-535-7	Xn	R10; R20/21; R38

Text for R-Phrases Shown in Section – 16

Exposure Limits

Ingredient

MAK

OEL-TWA(EH40/98)

ACGIH TLV-TWA(1997)

Aromatic Hydrocarbons

N/E

500mg/m³

N/E

1,2,4-trimethylbenzene

N/E

500mg/m³

25 ppm, 123mg/m³

Naphthalene

10 ppm, 50mg/m³

10 ppm, 53 mg/m³

10 ppm, 52mg/m³

STEL 15ppm, 79mg/m³

Mesitylene (125mg/m³, 25 ppm)

Section 3. HAZARD IDENTIFICATION

Hazard description:



Xn Harmful

N Dangerous for the environment

Information concerning particular hazards for human and environment:

R 40 Limited evidence of a carcinogenic effect.

R 51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R 65 Harmful: may cause lung damage if swallowed.

R 66 Repeated exposure may cause skin dryness or cracking.

R 67 Vapors may cause drowsiness and dizziness.

Classification system: The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

Warning: 3.1/4 - Harmful if swallowed.

3.1/4 - Harmful if inhaled.

3.2/2 - Causes skin irritation.

3.3/2A - Causes serious eye irritation.

3.8/3 - May cause respiratory irritation. May cause drowsiness or dizziness.

Prevention: Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Keep container tightly closed.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting/ equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Avoid breathing dust/fume/gas/mist/vapors/spray.

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Use only outdoors or in a well-ventilated area.

Avoid release to the environment.

Wear protective gloves/protective clothing/eye protection/face protection.

Use personal protective equipment as required.

Response: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

IF ON SKIN: Wash with plenty of soap and water.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

IF exposed or concerned: Get medical advice/attention.

Call a POISON CENTER or doctor/physician if you feel unwell.

Specific treatment (see label).

Rinse mouth.

Do NOT induce vomiting.

If skin irritation occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

Take off contaminated clothing and wash before reuse.

In case of fire: Use for extinction: CO2, powder or water spray.

Collect spillage.

Storage: Store in a well-ventilated place. Keep container tightly closed.

Store in a well-ventilated place. Keep cool.

Store locked up.

Disposal: Dispose of contents/container in accordance with local/regional/national/international regulations.

Section 4. FIRST AID MEASURES

Eye contact: Rinse immediately with plenty of water for 15 minutes.

Consult a doctor/medical service if irritation persists.

Skin contact: Use waterless hand cleaner.

Then wash with lots of water and soap.

Consult a doctor/medical service if irritation persists.

After inhalation: Unconscious: maintain adequate airway and respiration.

Remove the victim into fresh air.

Consult medical service if breathing problems develop.

After ingestion: Never give water to an unconscious person.

Do not allow vomiting.

Consult a doctor/medical service if you feel unwell.

Section 5. FIRE-FIGHTING MEASURES

See Section 7 for proper handling and storage

NFPA Ratings: Health: 1

Flammability: 2

Reactivity: 0

FLAMMABLE PROPERTIES

Flashpoint: ≥ 20 deg C (Estimated)

Autoignition: NDA

Flammability (Explosive) Limits (% by volume in air):

Lower: NDA

Upper: NDA

Suitable extinguishing media: Water spray.

Polyvalent foam.

BC powder.

Carbon dioxide.

Unsuitable extinguishing media: No data available.

Fire Fighting Instructions: Caution! Combustible. Clear fire area of all non-emergency personnel. Only enter confined fire space with full bunker gear, including a positive pressure, NIOSH-approved, self contained breathing apparatus. Cool surrounding equipment. Container areas exposed to direct flame contact should be cooled with large quantities of water (500 gallons water/min flame impingement exposure) to prevent weakening of container structure. For fires involving this material, do not enter any enclosed or confined fire space with out proper protective equipment, including self contained breathing apparatus.

Combustion Products: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids and gases including carbon monoxide, carbon dioxide and unidentified organic compounds will be evolved when this material undergoes combustion.

Special exposure hazards: Involving a fire hazard.

On heating/burning: release of toxic and corrosive gases/vapors (nitrous vapours, carbon monoxide, carbon dioxide.

Special protective equipment: Heat/fire exposure: compressed air/oxygen apparatus.

Heat/fire exposure: gas-tight suit.

Section 6. ACCIDENTAL RELEASE MEASURES

Personal protection: See Section No 8.

Environmental precautions: Collect/pump leaking substance into suitable containers.

Plug the leak, cut off the supply.

Clean-up: Take up liquid spill into adsorbent material, e.g.: sand, earth, vermiculite.

Scoop adsorbed substance into closing containers.

Clean contaminated surfaces with an excess of water.

Wash clothing and equipment after handling.

Section 7. HANDLING AND STORAGE

Handling: Reduce/avoid exposure and/or contact.

Keep container tightly closed.

Clean contaminated clothing.

Comply with the legal requirements.

Storage: Store in a cool and well-ventilated area.

Store out of direct sunlight.

Keep away from: heat sources, oxidizing agents, reducing agents.

Storage temperature: Not determined.

Materials for packaging: Suitable: N. D. A.

To avoid: N. D. A.

Section 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Limits

<u>Ingredient</u>	<u>MAK</u>	<u>OEL-TWA(EH40/98)</u>	<u>ACGIH TLV-TWA(1997)</u>
Aromatic Hydrocarbons	N/E	500mg/m ³	N/E
1,2,4-trimethylbenzene	N/E	500mg/m ³	25 ppm, 123mg/m ³
Naphthalene	10 ppm, 50mg/m ³	10 ppm, 53 mg/m ³	10 ppm, 52mg/m ³
			STEL 15ppm, 79mg/m ³

Mesitylene (125mg/m³, 25 ppm)

Recommended monitoring procedures: If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Occupational exposure controls: If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Hygiene measures: Wash hands, forearms and face thoroughly after handling compounds and before eating, smoking and using the lavatory and at the end of the day. During formulation, follow good industrial hygiene practice.

Eye protection: Safety glasses.

Skin protection: Lab coat.

Respiratory protection: A respirator is not needed under normal and intended conditions of product use.

Hand protection: Natural rubber (latex).



Environmental exposure controls: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Section 9. TYPICAL PHYSICAL AND CHEMICAL PROPERTIES

Typical physical and chemical properties are given below. Consult the Supplier in Section 1 for additional data.

Physical State: Clear to slight hazy Liquid
Relative Density (at 15.5 C): N. A.
Density (at 15.6 °C): 0.85 - 0.98 [ASTM D 1298]
Flash Point [Method]: ≥ 20 °C
Flammable Limits (Approximate volume % in air): LEL: 0.8 UEL: 5.9 (for solvent)
Auto-ignition Temperature: N. A.
Boiling Point / Range: N. A.
Vapor Density (Air = 1): N. A.
Vapor Pressure: N. A.
Evaporation Rate (n-butyl acetate = 1): N. A.
pH: NA
Log Pow (n-Octanol/Water Partition Coefficient): N.D.
Solubility in Water: N.D.
K. Viscosity @ 40 °C: Min. 50 cSt
Pour Point: Below 15 °C
Molecular Weight: NA
Hygroscopic: No
Coefficient of Thermal Expansion: NA

Section 10. STABILITY AND REACTIVITY

Stability: Stable under normal conditions.

Reactivity/Hazardous decomposition products: On heating/burning: release of toxic and corrosive gases/vapors (nitrous vapors, carbon monoxide, carbon dioxide). Can react with (some) acids. Can react with (some) bases.

Conditions/materials to avoid: Keep away from: heat sources, oxidizing agents, reducing agents.

Section 11. TOXICOLOGICAL INFORMATION

Inhalation: No known significant effects or critical hazards.

Ingestion: Aspiration hazard if swallowed. Can enter lungs and cause damage.

Skin contact: No known significant effects or critical hazards.

Eye contact: No known significant effects or critical hazards.

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Solvent naphtha (petroleum), heavy aromatic	LD50 Dermal	Rabbit	>2 mL/kg	-
Naphthalene	LD50 Dermal	Rabbit	>20 g/kg	-
	LD50 Dermal	Rat	>2500 mg/kg	-
	LD50 Oral	Rat	>490 mg/kg	-
1,2,4-Trimethylbenzene	LD50 Oral	Rat	5 g/kg	-

Chronic effects: No known significant effects or critical hazards.

Carcinogenicity: May cause cancer, based on animal data. Limited evidence of a carcinogenic effect. Risk of cancer depends on duration and level of exposure.

Mutagenicity: No known significant effects or critical hazards.

Teratogenicity: No known significant effects or critical hazards.

Developmental effects: No known significant effects or critical hazards.

Fertility effects: No known significant effects or critical hazards.

Over-exposure signs/symptoms

Ingestion: Adverse symptoms may include: nausea or vomiting

Inhalation: No specific data.

Skin: No specific data.

Eyes: No specific data.

Section 12. ECOLOGICAL INFORMATION

Mobility: Slightly Volatile.
 Insoluble in water.

Biodegradation:

Soil :	T ½ :	Not determined days
	BOD ₅ :	Not determined g O ₂ /g substance
	COD :	Not determined g O ₂ /g substance
Water :	No data available	

Bioaccumulation:

log P _{ow} :	Not determined
BCF :	Not determined

Aquatic toxicity : No data available

Naphthalene : LC50 (96h): 7.72 mg/l (PIMEPHALES PROMELAS)
 LC50 (48h): 3.6 mg/l (DAPHNIA MAGNA)
 EC50 (72h): 1 mg/l (ALGAE)

Other information:

WGK :	Not determined
Effect on the ozone layer :	Not determined
Waste water purification :	Not determined

Section 13. WASTE DISPOSAL INFORMATION

Provisions relating to waste: Hazardous waste (91/689/EEC).

Disposal methods: To be disposed of as hazardous waste.
 Landfill or incinerate at an approved site in accordance with national and local regulations.

Section 14. TRANSPORTATION INFORMATION

ADG

Proper shipping name: PETROLEUM DISTILLATES, N.O.S. (PETROLEUM NAPHTHA)
UN number: UN 1268 **Class:** 3 **Packing group:** III **Hazchem Code:** 3[Y]

IMDG

Proper shipping name: PETROLEUM DISTILLATES, N.O.S.
Identification number: UN 1268 **Class / Division:** 3 **Packing group:** III **Marine pollutant:** No

IATA (Country variations may apply)

Proper shipping name: Petroleum distillates, n.o.s.
UN No.: 1268 **Class / Division:** 3 **Packing group:** III

Section 15. REGULATORY INFORMATION

EU regulations

Hazard symbol or symbols



Classification: Harmful, Dangerous for the environment
 Contains: naphthalene
 Product use: Industrial applications.
 All components of this preparation are included in EINECS/ELINCS.
 Labeling in accordance with EC directives 67/548/EEC and 88/379/EEC
Contains: Aromatic hydrocarbons.

Risk Phrases

R10 Flammable. R20 Harmful by inhalation. R22 Harmful if swallowed R36 Irritating to eyes. R37 Irritating to respiratory system. R38 Irritating to skin. R40 Limited evidence of a carcinogenic effect. R45 May cause cancer. R65 Harmful: may cause lung damage if swallowed. R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.	S2 Keep out of the reach of children S24 Avoid contact with skin S25 Avoid contact with eyes S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S62 If swallowed do not induce vomiting, seek medical advice immediately and show this container or label. S36/37 Wear suitable protective clothing and gloves.
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EU Symbol: Xn - Harmful

Section 16. OTHER INFORMATION

HMIS™ – Hazardous Material Information System:

HMIS™ Ratings: 0-minimal hazard, 1-slight hazard, 2-moderate hazard, 3-serious hazard, 4-severe hazard

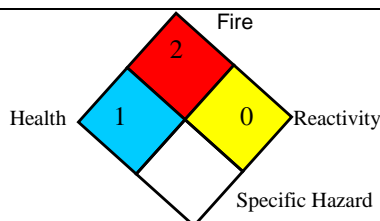
HEALTH: 1

FLAMMABILITY: 2

REACTIVITY: 0

Health	1
Fire Hazard	2
Physical Hazard	0
Personal Protection	C

National Fire
Protection
Association
(U.S.A)



Abbreviations that may have been used in this document.

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END OF MSDS

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Name: SR 2008

2. COMPOSITION / INFORMATION ON INGREDIENTS

<u>Ingredients</u>	<u>CAS No.</u>	<u>EC No.</u>	<u>Wt%</u>	<u>Symbols</u>	<u>R Phrases</u>
Long-chain alkyl carboxylic acid	--	--	94 – 98	None	None

3. HAZARDS IDENTIFICATION

Emergency Overview

Form: Liquid

Color: Clear yellow to Amber Liquid

Potential Health Effects:

Primary Routes of Exposure:

Skin Contact: Mild irritant, possibly causing surface inflammation especially on prolonged contact with oily skin.

Eye Contact: Mild irritant on prolonged contact, causing reddening, possibly blurred vision.

Ingestion: Extremely large oral dosages may produce gastrointestinal disturbances.

Inhalation: May cause irritation to respiratory tract.

Chronic Exposure: No adverse health effects expected

Carcinogenicity Classification:

International Agency for Research on Cancer (IARC): Not listed

U.S. National Toxicology Program (NTP): Not listed

U.S. Occupational Safety and Health Administration (OSHA): Not listed

American Conference of Governmental Industrial Hygienists (ACGIH): Not listed

4. FIRST AID MEASURES

Eye Contact: In case of contact, flush eyes with plenty of water for at least 15 minutes. Get medical advice if irritation develops.

Skin Contact: In case of contact, immediately flush skin with plenty of soap and water for at least 15 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse. Get medical attention if irritation develops or persists.

After inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

After ingestion: If large amounts were swallowed, give water to drink and get medical advice.

5. FIRE FIGHTING MEASURES

Suitable extinguishing media: Dry chemical, foam or carbon dioxide. Water spray may be used to keep fire exposed containers cool.

Fire and explosion hazards: Explosion is possible at or above conditions given above.

Special protective equipment: In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode. Do not use heavy streams of water, molten material will float on water.

Flash point: Min 90 °C

6. ACCIDENTAL RELEASE MEASURES

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid when possible. Neutralize with alkaline material (soda ash, lime), then absorb with an inert material (e. g. Vermiculite, dry sand, earth), and place in a chemical waste container. Do not use combustible materials, such as saw dust.

Do not flush to sewer! Remove all sources of ignition.

7. HANDLING AND STORAGE

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from any source of heat or ignition. Outside or detached storage is recommended. Store in the dark. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering measures: Whenever practicable, the product should be handled within a closed system

Eye protection: Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

Ventilation System: A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area.

Skin and body protection: Wear protective gloves and clean body – covering clothing.

Respiratory protection: Not expected to require personal respirator usage.

9. PHYSICAL AND CHEMICAL PROPERTIES

These data do not represent technical or sales specification

Form: Liquid

Color: Clear yellow to Amber

Boiling point/range: ND

Melting point/range: ND

Flash point: min 90 °C

Autoignition temperature: ND

Bulk density: ND

Vapor pressure: ND

Relative density/Specific Gravity: 0.88 – 0.93 @ 15.6°C

Vapor density: ND

Viscosity: 7.0 – 22.0 @ 40°C

Water solubility: ND

Abbreviations:

N.D. – Not Determined

N.A. - Not Applicable

10. STABILITY

Stability: Stable under ordinary conditions of use and storage. On exposure to air it can oxidize and turn yellow to brown in color and a rancid odor.

Hazardous decomposition products: Carbon dioxide and carbon monoxide may form when heated to decomposition.

Conditions/Materials to avoid: Aluminum, perchloric acid, Oxidizing agents.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity: LD50/oral/rat = ND

LD50/dermal/rabbit = ND

LC50/inhalation/rat = ND

Chronic toxicity: EC Carcinogenic: ND

EC Mutagenic: ND

EC Toxic for Reproduction: ND

Carcinogenicity (ACGIH): ND

IARC classification: ND

12. ECOLOGICAL INFORMATION

Environmental Fate: When released into the air, this material is expected to be readily degraded by reaction with photo chemically produced hydroxyl radicals. When released into the air, this material is expected to have a half-life of less than 1 day. When released into the soil, this material is expected to readily biodegrade. When released into the soil, this material is expected to have a half-life of less than 1 day. When released into water, this material is expected to have a half-life between 1 and 10 days. When released into water, this material may evaporate to a moderate extent. This material has a log octanol-water partition coefficient of greater than 3.0. This material has an estimated bio-concentration factor (BCF) of greater than 100.

Environmental Toxicity: No information found.

13. DISPOSAL CONSIDERATIONS

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. TRANSPORT INFORMATION

Not regulated

15. REGULATORY INFORMATION

United States

Toxic Substances Control Act (TSCA): All components of this product are in compliance with the inventory listing requirements of the U. S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

16. OTHER INFORMATION

HMIS™ – Hazardous Material Information System:

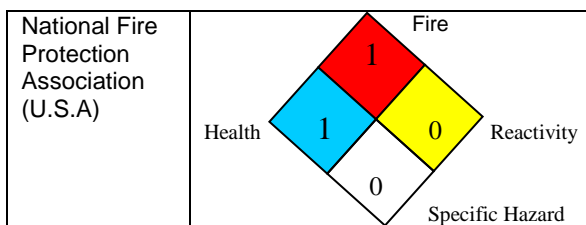
HMIS™ Ratings: 0-minimal hazard, 1-slight hazard, 2-moderate hazard, 3-serious hazard, 4-severe hazard

HEALTH: 0

FLAMMABILITY: 0

REACTIVITY: 0

Health	1
Fire Hazard	1
Reactivity	0
Specific Hazard	0



For additional information concerning this product, contact the following:

PRODUCT EMERGENCIES

Dorf Ketel Chemicals (I) Pvt. Ltd.

#1 DORF KETAL TOWERS.

D'Monte Street, Marve Road.

Malad (W). Bombay 64.

Tel: +91-22-28813654 / +91-22-28828374.

Fax: +91-22-28882366

Dorf Ketel LLC

3727 Greenbriar

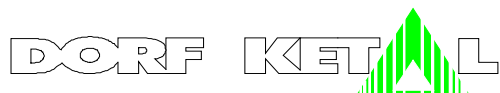
Suite 114,

Stafford, TX 77477

Tel : 281 491 3700

Fax : 281 491 3700

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contained in this data sheet are not to be constructed as a license to operate under, or a recommendation to infringe, any existing patents, nor should they be confused with state, municipal or insurance requirements, or with national safety codes.

END OF MSDS



SAFETY DATA SHEET

OFI 7620

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Identification of the substance or mixture

Product name : OFI 7620

Product code : 10372

Use of the substance/mixture

Petrochemical industry: Petrochemicals. Fuel additive.

Restrictions on use

Not available.

Supplier/Manufacturer : Innospec Limited
Innospec Manufacturing Park
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e-mail address of person responsible for this SDS : sdsinfo@innospecinc.com

NON-emergency enquiries : corporatecommunications@innospecinc.com

Emergency telephone number (with hours of operation)

In Europe, Middle East, Africa, Asia Pacific and South America
24 hour / 7 day emergency response for Innospec products is
provided by the NCEC CARECHEM 24 global network



The main regional centres are listed here in Section 1.

Other local contact numbers for specific language support in Asia Pacific are listed in Section 16

Country information	Emergency telephone number	Location
Europe (all countries, all languages)	: +44 (0) 1235 239 670	London, UK
Middle East, Africa (Arabic, French, English)	: +44 (0) 1235 239 671	Lebanon
Middle East, Africa (French, Portuguese, English)	: +44 (0) 1235 239 670	London UK
Asia Pacific (all countries except China)	: +65 3158 1074	Singapore
China	: +86 10 5100 3039	Beijing China
South America (all countries)	: +1 215 207 0061	Philadelphia USA

In USA, Canada and North America, 24 hour / 7 day emergency response for Innospec products
is provided by the CHEMTREC (R) Emergency Call Center based in the USA


toll-free telephone numbers USA : 800 424 9300 Canada, Puerto Rico, Virgin Islands : +1 800 424 9300
In case of difficulty using the toll-free number, or for ships at sea, please call +1 703 527 3887

See section 16.

2. HAZARDS IDENTIFICATION

The product is classified as dangerous according to Directive 1999/45/EC and its amendments.

Classification according to Regulation (EC) 1907/2006 (REACH)

- Classification** : Carc. Cat. 3; R40
R66, R67
N; R51/53
- Human health hazards** : Limited evidence of a carcinogenic effect. Repeated exposure may cause skin dryness or cracking. Vapours may cause drowsiness and dizziness.
- Environmental hazards** : Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- Hazard symbol or symbols** : 
- Risk phrases** : R40- Limited evidence of a carcinogenic effect.
R66- Repeated exposure may cause skin dryness or cracking.
R67- Vapours may cause drowsiness and dizziness.
R51/53- Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- Safety phrases** : S36/37- Wear suitable protective clothing and gloves.
S61- Avoid release to the environment. Refer to special instructions/safety data sheet.
- Contains** : - naphthalene

Classification and labeling according to Regulation (EC) 1272/2008 (CLP)

Classification and labeling have been determined according to Regulation (EC) 1272/2008 (including amendments) and take into account the intended product use.

- Signal word** : Warning
- Classification** : SKIN CORROSION/IRRITATION - Category 2
CARCINOGENICITY - Category 2
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) [Narcotic effects] - Category 3
AQUATIC TOXICITY (CHRONIC) - Category 2

- Hazard symbol or symbols** : 

- Hazard statements** : Causes skin irritation.
Suspected of causing cancer.
May cause drowsiness or dizziness.
Toxic to aquatic life with long lasting effects.
Repeated exposure may cause skin dryness or cracking.

Precautionary statements

- Prevention** : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Wear protective gloves: >8 hours (breakthrough time): Viton; 1-4 hours (breakthrough time): nitrile rubber. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Avoid breathing vapour. Wash thoroughly after handling.
- Response** : Collect spillage. IF ON SKIN: Take off contaminated clothing and wash before reuse. Wash with plenty of soap and water. IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. IF exposed or concerned: Call a POISON CENTER or doctor/physician if you feel unwell. Get medical advice/attention.
- Storage** : Store locked up.
- Disposal** : Dispose of contents and container in accordance with all local, regional, national and international regulations.
- Contains** : solvent naphtha (petroleum), heavy arom.; 1,2,4-trimethylbenzene; naphthalene
- Other adverse symptoms** : Adverse symptoms include the following: chemical pneumonitis
- PBT** : Not applicable.
- vPvB** : Not applicable.

See section 11 for more detailed information on health effects and symptoms.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Description of the product type : Mixture

Ingredient name	CAS number	%	EC number	Classification (according to REACH)
Solvent naphtha (petroleum), heavy arom.	64742-94-5	30 - 60	265-198-5	Xn; R65 [1] [2] R66, R67 N; R51/53
1,2,4-trimethylbenzene	95-63-6	0.99 - 4.99	202-436-9	R10 [1] [2] Xn; R20 Xi; R36/37/38 N; R51/53
naphthalene	91-20-3	0.99 - 4.99	202-049-5	Carc. Cat. 3; [1] [2] R40 Xn; R22 N; R50/53
p-Cymene	99-87-6	0.99 - 4.99	202-796-7	R10 [1] Xn; R65 N; R51/53
mesitylene	108-67-8	0.09 - 0.99	203-604-4	R10 [1] [2] Xi; R37 N; R51/53
See section 16 for the full text of the R-phrases declared above				

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

[3] PBT-substance

[4] vPvB-substance

Occupational exposure limits, if available, are listed in section 8.

4. FIRST AID MEASURES

First-aid measures

Inhalation

: Move exposed person to fresh air. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Ingestion

: Wash out mouth with water. Remove dentures if any. Move exposed person to fresh air. Keep person warm and at rest. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact

: Wash skin thoroughly with soap and water or use recognised skin cleanser. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Eye contact

: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Protection of first-aiders

: No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

4. FIRST AID MEASURES

Notes to physician : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

See section 11 for more detailed information on health effects and symptoms.

5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable : Use dry chemical, CO₂, water spray (fog) or foam.

Not suitable : Do not use water jet.

Special exposure hazards : Combustible liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.
Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. This material is toxic to aquatic organisms. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).

Environmental precautions : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

Methods for cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

7. HANDLING AND STORAGE

Handling Put on appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapour or mist. Avoid release to the environment. Refer to special instructions/safety data sheet. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding

7. HANDLING AND STORAGE

containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.

Storage

- : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

Packaging materials

Recommended

- : Use original container.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure limit values

Ingredient name	Occupational exposure limits
Solvent naphtha (petroleum), heavy arom.	Innospec Inc. (Europe, 2007). TWA: 17 ppm, 0 times per shift, 8 hour(s). EH40/2005 WELs (United Kingdom (UK), 8/2007). TWA: 25 ppm, 0 times per shift, 8 hour(s). TWA: 125 mg/m ³ , 0 times per shift, 8 hour(s). EU OEL (Europe, 4/2006). Notes: Indicative Limit value: 10 ppm, 0 times per shift, 8 hour(s). Limit value: 50 mg/m ³ , 0 times per shift, 8 hour(s). EH40/2005 WELs (United Kingdom (UK), 8/2007). TWA: 25 ppm, 0 times per shift, 8 hour(s). TWA: 125 mg/m ³ , 0 times per shift, 8 hour(s).
1,2,4-trimethylbenzene	
naphthalene	
mesitylene	

Recommended monitoring procedures

- : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to European Standard EN 689 for methods for the assessment of exposure by inhalation to chemical agents and national guidance documents for methods for the determination of hazardous substances.

Exposure controls

Occupational exposure controls

- : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Hygiene measures

- : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Respiratory protection

- : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Recommended: organic vapour filter (Type A)

Hand protection

- : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. >8 hours (breakthrough time): Viton
1-4 hours (breakthrough time): nitrile rubber

Eye protection

- : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. Recommended: splash goggles

Skin protection

- : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and chemical properties

Physical state	: Liquid.
Colour	: White to yellowish.
Odour	: Aromatic.
Odour threshold	: Not available.
pH	: Not available.
Melting point	: May start to solidify at the following temperature: <-20°C (<-4°F) This is based on data for the following ingredient: solvent naphtha (petroleum), heavy arom.. Weighted average: -25.6°C (-14.1°F)
Boiling point	: Lowest known value: 168.01°C (334.4°F) (1,2,4-trimethylbenzene). Weighted average: 194.28°C (381.7°F)
Flash point	: Closed cup: >63°C (>145.4°F) [Pensky-Martens.]
Evaporation rate	: Highest known value: 0.14 (p-cymene) Weighted average: 0.05 compared with butyl acetate
Explosion limits	: Greatest known range: Lower: 0.6% Upper: 7% (solvent naphtha (petroleum), heavy arom.)
Vapour pressure	: Highest known value: 0.1 kPa (0.8 mm Hg) (at 20°C) (solvent naphtha (petroleum), heavy arom.).
Vapour density	: Highest known value: 4.6 to 5.5 (Air = 1) (solvent naphtha (petroleum), heavy arom.). Weighted average: 4.99 (Air = 1)
Density	: <0.91 g/cm ³ [50°C (122°F)]
Solubility	: Insoluble in the following materials: cold water, hot water.
Octanol/water partition coefficient	: Not available.
Auto-ignition temperature	: Lowest known value: 425°C (797°F) (solvent naphtha (petroleum), heavy arom.).
Decomposition temperature	: Not available.
Viscosity	: Kinematic (40°C (104°F)): <5 cm ² /s (<500 cSt)
Explosive properties	: Not available.
Oxidising properties	: Not available.
Other information	: Not applicable.

10. STABILITY AND REACTIVITY

Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Avoid release to the environment. Refer to special instructions/safety data sheet.
Materials to avoid	: Reactive or incompatible with the following materials: oxidizing materials
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. TOXICOLOGICAL INFORMATION

Toxicokinetics

Absorption	: Routes of entry anticipated: Oral, Dermal, Inhalation.
Distribution	: Contains material which causes damage to the following organs: blood, kidneys, liver, upper respiratory tract, skin, central nervous system (CNS), eye, lens or cornea.
Metabolism	: Not available.

11. TOXICOLOGICAL INFORMATION

Elimination : Not available.

Potential acute health effects

Inhalation : Vapours may cause drowsiness and dizziness.

Ingestion : No known significant effects or critical hazards.

Skin contact : Defatting to the skin. May cause skin dryness and irritation.

Eye contact : May cause eye irritation.

Acute toxicity

Product/ingredient name	Result	Species		
Solvent naphtha (petroleum), heavy arom.	LC50 Inhalation Vapour	Rat	>590 mg/m ³	4 hours
	LD50 Dermal	Rabbit	>2 mL/kg	-
1,2,4-trimethylbenzene naphthalene	LDLo Oral	Rat	5 mL/kg	-
	LD50 Oral	Rat	5 g/kg	-
	LC50 Inhalation Vapour	Rat	>340 mg/m ³	1 hours
	LD50 Dermal	Rabbit	>2000 mg/kg	-
p-Cymene mesitylene	LD50 Oral	Rat	490 mg/kg	-
	LD50 Oral	Rat	3669 mg/kg	-
	LC50 Inhalation Vapour	Rat	24000 mg/m ³	4 hours
	LD50 Oral	Rat	5000 mg/kg	-

Potential chronic health effects

Product name	Carcinogenic effects	Mutagenic effects	Developmental effects	Fertility effects
naphthalene	Carc. Cat. 3; R40	-	-	-

Chronic effects : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.

Carcinogenicity : May cause cancer, based on animal data. Limited evidence of a carcinogenic effect. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Inhalation : Adverse symptoms may include the following:
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo

Ingestion : No specific data.

Skin : Adverse symptoms may include the following:
irritation
dryness
cracking

Eyes : No specific data.

Target organs : Contains material which causes damage to the following organs: blood, kidneys, liver, upper respiratory tract, skin, central nervous system (CNS), eye, lens or cornea.

12. ECOLOGICAL INFORMATION

Ecotoxicity : Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure

12. ECOLOGICAL INFORMATION

Solvent naphtha (petroleum), heavy arom.	Acute EC50 1 to 3 mg/l	Algae	72 hours
1,2,4-trimethylbenzene	Acute EC50 3 to 10 mg/l	Daphnia	48 hours
naphthalene	Acute LC50 2 to 5 mg/l	Fish	96 hours
	Acute LC50 7.72 mg/L	Fish	96 hours
	Acute EC50 1.96 mg/L Fresh water	Daphnia - Daphnia magna - <24 hours	48 hours
p-Cymene	Acute LC50 2350 ug/L Marine water	Crustaceans - Palaemonetes pugio	48 hours
	Acute LC50 1.6 mg/L	Fish	96 hours
	Acute LC50 6500 to 10000 ug/L Fresh water	Daphnia - Daphnia magna - <=24 hours	48 hours
	Acute LC50 48 to 64 ppm Marine water	Fish - Cyprinodon variegatus - Juvenile (Fledgling, Hatchling, Weanling) - 8 to 15 mm	96 hours
mesitylene	Chronic NOEC <4600 ug/L Fresh water	Daphnia - Daphnia magna - <=24 hours	48 hours
	Acute EC50 25 mg/L	Algae	48 hours
	Acute LC50 12520 to 15050 ug/L Fresh water	Fish - Carassius auratus - 1 to 1.5 years - 13 to 20 cm - 20 to 80 g	96 hours

Other ecological information

Persistence/degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Solvent naphtha (petroleum), heavy arom.	-	-	Inherent

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Solvent naphtha (petroleum), heavy arom.	>3	<100	low
1,2,4-trimethylbenzene	4.09	275	high
naphthalene	3.3	>100	high

Other adverse effects

: No known significant effects or critical hazards.

PBT

: P: Not available. B: Not available. T: Not available.

vPvB

: vP: Not available. vB: Not available.

13. DISPOSAL CONSIDERATIONS

Methods of disposal


: The generation of waste should be avoided or minimised wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

Hazardous waste

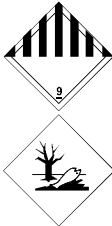
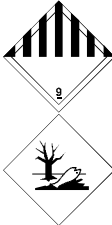
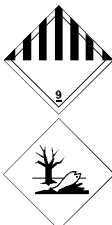
: The classification of the product may meet the criteria for a hazardous waste.

14. TRANSPORT INFORMATION

International transport regulations

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
ADR/RID Class	UN3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (solvent naphtha (petroleum), heavy arom.)	9	III		Hazard identification number 90 Limited quantity LQ7 CEPIC Tremcard 90GM6-III

14. TRANSPORT INFORMATION

						<u>Tunnel restriction code:</u> (E)
ADN/ADNR Class	UN3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (solvent naphtha (petroleum), heavy arom.)	9	III		-
IMDG Class	UN3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (solvent naphtha (petroleum), heavy arom.). Marine pollutant (solvent naphtha (petroleum), heavy arom., naphthalene)	9	III		<u>Emergency schedules (EmS)</u> F-A, S-F Marine pollutant
IATA Class	UN3082	Environmentally hazardous substance, liquid, n.o.s. (solvent naphtha (petroleum), heavy arom.)	9	III		<u>Passenger and Cargo Aircraft</u> Quantity limitation: 450 L Packaging instructions: 914 <u>Cargo Aircraft Only</u> Quantity limitation: 450 L Packaging instructions: 914 <u>Limited Quantities - Passenger Aircraft</u> Quantity limitation: 30 kg Packaging instructions: Y914

PG* : Packing group

15. REGULATORY INFORMATION

Chemical Safety Assessment	: This product contains substances for which Chemical Safety Assessments are still required.
Australia inventory (AICS)	: All components are listed or exempted.
Canada inventory	: All components are listed or exempted.
China inventory (IECSC)	: All components are listed or exempted.
EU Inventory	: All components are listed or exempted.
Japan inventory (ENCS)	: All components are listed or exempted.
Korea inventory (KECI)	: All components are listed or exempted.
New Zealand Inventory of Chemicals (NZIoC)	: All components are listed or exempted.
Philippines inventory (PICCS)	: All components are listed or exempted.
United States inventory (TSCA 8b)	: All components are listed or exempted.
Black List Chemicals	: Not listed
Priority List Chemicals	: Listed
Integrated pollution prevention and control list (IPPC) - Air	: Not listed

15. REGULATORY INFORMATION

Integrated pollution prevention and control list (IPPC) - Water : Not listed

International regulations

Chemical Weapons Convention : List Schedule I Chemicals : Not listed

Chemical Weapons Convention : List Schedule II Chemicals : Not listed

Chemical Weapons Convention : List Schedule III Chemicals : Not listed

16. OTHER INFORMATION

Full text of R-phrases referred to in sections 2 and 3 - United Kingdom (UK) :

- R10- Flammable.
- R40- Limited evidence of a carcinogenic effect.
- R20- Harmful by inhalation.
- R22- Harmful if swallowed.
- R65- Harmful: may cause lung damage if swallowed.
- R37- Irritating to respiratory system.
- R36/37/38- Irritating to eyes, respiratory system and skin.
- R66- Repeated exposure may cause skin dryness or cracking.
- R67- Vapours may cause drowsiness and dizziness.
- R50/53- Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- R51/53- Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Full text of classifications referred to in sections 2 and 3 - United Kingdom (UK) :

- Carc. Cat. 3 - Carcinogen category 3
- Xn - Harmful
- Xi - Irritant
- N - Dangerous for the environment

History

Date of printing : 16/08/2010.

Date of issue/ Date of revision : 16/08/2010.

Date of previous issue : 09/07/2010.

Version : 2

Indicates information that has changed from previously issued version.

Emergency contact numbers for local language support in Asia Pacific region

Country information	Languages supported	Telephone no.:	Location
Australia	English	+61 2 8014 4558	Australia
Bangladesh	Bengali, English	+65 3158 1200	Singapore
China	Mandarin, English	+86 10 5100 3039	Beijing China
India	Hindi, English	+65 3158 1198	Singapore
Indonesia (local toll free number)	Bahasa Indonesian, English	00780 3011 0293	Indonesia
Japan	Japanese, English	+81 3 4578 9341	Japan
Korea	Korean, English	+65 3158 1285	Singapore
Malaysia	Bahasa Malaysian, English	+60 3 6207 4347	Malaysia
New Zealand	English	+61 9929 1483	Australia
Pakistan	Urdu, English	+65 3158 1329	Singapore
Philippines	Tagalog, English	+65 3158 1203	Singapore
Sri Lanka	Sinhalese, English	+65 3158 1195	Singapore

16. OTHER INFORMATION

Thailand (local toll free number)	Thai, English	001800 1 2066 6751	Thailand
Vietnam	Vietnamese, English	+65 3158 1255	Singapore

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Annex

SAFETY DATA SHEET

SR 1546

Page : 1

Revision nr : 1

Date : 29/10/2007

Supersedes : 0/0/0



N : Dangerous for the environment



T : Toxic

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

Commercial Product Name : SR 1546
Use of the Substance/Preparation : Antioxidant
Company : Dorf Ketal B.V.
POBox 1569
4700 BN Roosendaal
Tel: +31 627 85 85 69
Tel: +31 627 85 85 68
Fax: +31 84 22 88 916
E-mail: msds.europe@dorketal.com
Emergency telephone number : +31 (0)627 85 85 68
+31 (0)627 85 85 69

2 HAZARDS IDENTIFICATION

Most important hazards : The product is classified as dangerous in accordance with Directive 1999/45/EC.
Toxic if swallowed.
Causes burns.
May cause sensitization by skin contact.
Environmental properties : Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

3 COMPOSITION/INFORMATION ON INGREDIENTS

Substance name	Value(s)	CAS No / EC No / EC Index	Symbol(s)	R-Phrase(s)
<u>N,N'-di-sec-butyl-p-phenylenediamine</u>	: > 96 %	101-96-2 / 202-992-2 / -	T N	25-34-43-50/53
Full text of R-phrases	: See section 16.			

4. FIRST AID MEASURES

First aid measures
Inhalation : Move to fresh air.
Keep at rest.
Oxygen or artificial respiration if needed.
Call a physician immediately.
Skin contact : Wash off immediately with soap and plenty of water.
Take off contaminated clothing and shoes immediately.
Wash contaminated clothing before re-use.
Call a physician immediately.
Eye contact : Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
Ingestion : Drink plenty of water.
Do not induce vomiting.
Call a physician immediately.
Additional advice : Never give anything by mouth to an unconscious person.
Show this safety data sheet to the doctor in attendance.

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4. FIRST AID MEASURES (continued)

Treat symptomatically.

5. FIRE-FIGHTING MEASURES

- | | |
|--|---|
| Suitable extinguishing media | : dry powder
water spray
Carbon dioxide (CO ₂) |
| Extinguishing media which must not be used for safety reason | : High volume water jet |
| Specific hazards | : Evacuate personnel to safe areas.
Cool containers / tanks with spray water.
Possible decomposition products are: CO _x , NO _x
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. |
| Special protective equipment for firefighters | : Wear personal protective equipment.
In the event of fire, wear self-contained breathing apparatus. |

6. ACCIDENTAL RELEASE MEASURES

- | | |
|---------------------------|---|
| Personal precautions | : See also section 8.
Wear personal protective equipment.
Avoid contact with skin, eyes and clothing.
Do not breathe vapours or spray mist.
Keep away from open flames, hot surfaces and sources of ignition.
Ensure adequate ventilation. |
| Environmental precautions | : Prevent product from entering drains. |
| Methods for cleaning up | : Dam up.
Prevent further leakage or spillage if safe to do so.
Sweep up and shovel into suitable containers for disposal.
Dispose of in accordance with local regulations |

7. HANDLING AND STORAGE

- | | |
|-----------------|---|
| Storage | : Keep tightly closed in a dry, cool and well-ventilated place.
Do not store near or with any of the incompatible materials listed in section 10.
Keep away from open flames, hot surfaces and sources of ignition.
Keep away from direct sunlight. |
| Handling | : See also section 8.
Wear personal protective equipment.
Handle in accordance with good industrial hygiene and safety practice.
Ensure adequate ventilation.
Keep away from food, drink and animal feeding stuffs.
Keep away from open flames, hot surfaces and sources of ignition.
Avoid contact with skin, eyes and clothing.
Wash hands before breaks and immediately after handling the product.
Do not breathe vapours or spray mist.
Always replace cap after use. |
| Specific use(s) | : Antioxidant |

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8. EXPOSURE CONTROLS / PERSONAL PROTECTION

- Personal protective equipment
- Respiratory protection : In case of insufficient ventilation wear suitable respiratory equipment. (type B2)
- Hand protection : Rubber gloves (EN 374) - Nitrile rubber
The selection of specific gloves for a specific application and time of use in a working area, should also take into account other factors on the working space, such as (but not limited to): other chemicals that are possibly used, physical requirements (protection against cutting/drilling, skill, thermal protection), and the instructions/specification of the supplier of gloves.
- Eye protection : Safety glasses (EN166)
Tightly fitting safety goggles (if splashing is possible)
- Hygiene measures : Use only in area provided with appropriate exhaust ventilation.
Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance : Liquid
- Colour : dark red
- Odour : petroleum hydrocarbon odour
- pH : No data available
- Boiling point/range : 320°C
- Melting point/range : Not applicable
- Flash point : $\geq 120^{\circ}\text{C}$
- Evaporation rate : No data available
- Pour point : $< -18^{\circ}\text{C}$
- Vapour density : > 1
- Solubility in other solvents : No data available
- Autoignition temperature : No data available
- Explosive properties : No data available
- Oxidising properties : No data available
- Vapour pressure : $< 1,3 @ 20^{\circ}\text{C}$
- Relative density : $0,93 - 0,95 @ 15^{\circ}\text{C}$
- Water solubility : Insoluble
- Viscosity : No data available
- Partition coefficient (n-octanol/water) : No data available

10. STABILITY AND REACTIVITY

- Stability : Stable at normal conditions
- Hazardous decomposition products : Carbon oxides , Nitrogen oxides (NOx)
- Materials to avoid : Incompatible with oxidising agents.
Acids
aldehydes
- Conditions to avoid : Heat, flames and sparks.

11. TOXICOLOGICAL INFORMATION

- Acute toxicity : No data is available on the product itself.
- Inhalation : Causes burns
- Skin contact : Causes burns
May cause sensitisation by skin contact.

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11. TOXICOLOGICAL INFORMATION (continued)

Eye contact : Causes burns
Ingestion : Toxic if swallowed.
Causes burns
Chronic toxicity : May cause sensitisation by skin contact.

12. ECOLOGICAL INFORMATION

Bioaccumulation : No data is available on the product itself.
Ecotoxicity effects : Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Mobility : Insoluble
Persistence and degradability : No data is available on the product itself.

13. DISPOSAL CONSIDERATIONS

Waste from residues : Dispose of in accordance with local regulations

14. TRANSPORT INFORMATION

Class



ADR/RID

UN-No : 2922
Proper shipping name : CORROSIVE LIQUID, TOXIC, N.O.S. (N,N'-di-sec-butyl-p-phenylenediamine)
Class : 8
Packing group : III
IMDG
UN-No : 2922
Class : 8
Packing group : III
Proper shipping name : CORROSIVE LIQUID, TOXIC, N.O.S. (N,N'-di-sec-butyl-p-phenylenediamine)
EmS : F-A, S-B
ICAO/IATA
UN-No : 2922
Class : 8
Packing group : III
Proper shipping name : CORROSIVE LIQUID, TOXIC, N.O.S. (N,N'-di-sec-butyl-p-phenylenediamine)

15. REGULATORY INFORMATION

Labelling : The preparation is classified as dangerous in accordance with Directive 1999/45/EC.
Symbol(s) : T - Toxic
N - Dangerous for the environment
R-phrases) : R25 - Toxic if swallowed.
R34 - Causes burns.
R43 - May cause sensitization by skin contact.

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15. REGULATORY INFORMATION (continued)

S-phrases(s)	<p>R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.</p> <p>: S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.</p> <p>S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection.</p> <p>S45 - In case of accident or if you feel unwell, seek medical advice immediately (show label where possible).</p> <p>S61 - Avoid release to the environment. Refer to special instructions/safety data sheets.</p>
Contains	: N,N'-di-sec-butyl-p-phenylenediamine
WGK	: -

16. OTHER INFORMATION

Text of R phrases mentioned in Section 2	<p>: R25 - Toxic if swallowed.</p> <p>R34 - Causes burns.</p> <p>R43 - May cause sensitization by skin contact.</p> <p>R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.</p>
Sources of key data used to compile the datasheet	: European Chemicals Bureau

The contents and format of this SDS are in accordance with EEC Commission Directive 1999/45/EC, 1967/548/EC and EEC Commission Regulation 1907/2006/EC (REACH) Annex II.

DISCLAIMER OF LIABILITY The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable.

End of document

1. Composition/information on ingredients

Product name : SR-1651
 Substance/preparation : Preparation
 Product type : Liquid.

Ingredient name	CAS number	%	EC number	Classification	Poison class
Solvent naphtha (petroleum), heavy aromatic	64742-94-5	30 - 60	265-198-5	Xn; R65	Not applicable.
Acetic acid ethenyl ester	24937-78-8	30 - 60		Not classified.	Not applicable.
naphthalene	91-20-3	5 - 10	202-049-5	Carc. Cat. 3; R40 Xn; R22 N; R50/53	3
1,2,4-trimethylbenzene	95-63-6	0.1 - 1	202-436-9	R10 Xn; R20 Xi; R36/37/38 N; R51/53	3

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in section 8.

2. Information on the organisation (person) - manufacturer or supplier

Supplier/Manufacturer : Dorf Ketal Chemicals (I) Pvt Ltd
 Dorf Ketal Tower, Dm Road, Lane,
 Orlem, Malad West
 Mumbai - 400 064, INDIA
 Emergency telephone number : CHEMTREC International: (703) 527-3887

3. Hazards identification

Classification : Carc. Cat. 3; R40
 Xn; R65
 N; R51/53
 Human health hazards : Limited evidence of a carcinogenic effect. Harmful: may cause lung damage if swallowed.
 Environmental hazards : Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

4. First-aid measures

Eye contact : Check for and remove any contact lenses. In case of contact with eyes, rinse immediately with plenty of water. Get medical attention.
 Skin contact : In case of contact, immediately flush skin copiously with water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention.
 Inhalation : If inhaled, remove to fresh air. If not breathing, give artificial respiration. Get medical attention.
 Ingestion : Do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention.
 Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
 Notes to physician : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

5 . Fire-fighting measures

Extinguishing media

Suitable : Use an extinguishing agent suitable for the surrounding fire.

Not suitable : None known.

Special exposure hazards : This material is toxic to aquatic organisms. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6 . Accidental release measures

Personal precautions : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).

Environmental precautions : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

Methods for cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor

Large spill : Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

7 . Handling and storage

Handling : Put on appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Avoid release to the environment. Refer to special instructions/safety data sheet. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Storage : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

Packaging materials

Recommended : Use original container.

8 . Exposure controls/personal protection

Ingredient name	Occupational exposure limits
naphthalene	EU OEL (Europe, 5/2006). 8 hours: 50 mg/m ³ 8 hour(s).
1,2,4-trimethylbenzene	EU OEL (Europe, 5/2006). 8 hours: 100 mg/m ³ 8 hour(s).

- Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.
- Occupational exposure controls** : If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
- Hygiene measures** : Wash hands, forearms and face thoroughly after handling compounds and before eating, smoking and using the lavatory and at the end of the day. During formulation, follow good industrial hygiene practice.
- Eye protection** : Safety glasses.
- Skin protection** : Lab coat.
- Respiratory protection** : A respirator is not needed under normal and intended conditions of product use.
- Hand protection** : Natural rubber (latex).



- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9 . Physical and chemical properties

- Physical state** : Liquid.
- Relative density** : Not available.

10 . Stability and reactivity

- Stability** : The product is stable. Under normal conditions of storage and use, hazardous polymerisation will not occur.
- Conditions to avoid** : Avoid release to the environment. Refer to special instructions/safety data sheet.
- Materials to avoid** : Reactive or incompatible with the following materials: oxidizing materials and alkalis.
- Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11 . Toxicological information

- Inhalation** : No known significant effects or critical hazards.
- Ingestion** : Aspiration hazard if swallowed. Can enter lungs and cause damage.
- Skin contact** : No known significant effects or critical hazards.
- Eye contact** : No known significant effects or critical hazards.

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Solvent naphtha (petroleum), heavy aromatic	LD50 Dermal	Rabbit	>2 mL/kg	-
Naphthalene	LD50 Dermal	Rabbit	>20 g/kg	-
	LD50 Dermal	Rat	>2500 mg/kg	-
	LD50 Oral	Rat	>490 mg/kg	-
1,2,4-Trimethylbenzene	LD50 Oral	Rat	5 g/kg	-

- Chronic effects** : No known significant effects or critical hazards.

11 . Toxicological information

Carcinogenicity	: May cause cancer, based on animal data. Limited evidence of a carcinogenic effect. Risk of cancer depends on duration and level of exposure.
Mutagenicity	: No known significant effects or critical hazards.
Teratogenicity	: No known significant effects or critical hazards.
Developmental effects	: No known significant effects or critical hazards.
Fertility effects	: No known significant effects or critical hazards.
Over-exposure signs/symptoms	
Ingestion	: Adverse symptoms may include the following: nausea or vomiting
Inhalation	: No specific data.
Skin	: No specific data.
Eyes	: No specific data.

12 . Ecological information

Environmental effects	: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
------------------------------	---

Aquatic ecotoxicity

Product/ingredient name	Test / Type	Species	Dose
Naphthalene	Acute EC50 1.96 mg/L	Daphnia	- 48 hours
	Acute LC50 2.25 mg/L	Fish	- 96 hours
	Acute LC50 17.4 mg/L	Daphnia	- 48 hours
	Acute LC50 2.1 ppm	Fish	- 96 hours
1,2,4-Trimethylbenzene	Acute LC50 2.6 to 2.89 ppm	Crustaceans	- 48 hours
	Acute LC50 17000 ug/L	Crustaceans	- 48 hours
	Acute LC50 7720 to 8280 ug/L	Fish	- 96 hours

Other adverse effects	: No known significant effects or critical hazards.
------------------------------	---

13 . Disposal considerations

Methods of disposal	: The generation of waste should be avoided or minimised wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.
----------------------------	---

Hazardous waste	: The classification of the product may meet the criteria for a hazardous waste.
------------------------	--

14 . Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
ADR/RID Class	UN3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (1,2,4-Trimethylbenzene)	9	III		-
ADNR Class	UN3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (1,2,4-Trimethylbenzene)	9	III		-

14 . Transport information

IMDG Class	UN3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (1,2,4- Trimethylbenzene)	9	III		-
IATA Class	UN3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (1,2,4- Trimethylbenzene)	9	III		-

PG* : Packing group

15 . Regulatory information

EU regulations

Hazard symbol or symbols :



Classification

: Harmful, Dangerous for the environment

Risk phrases

: R40- Limited evidence of a carcinogenic effect.
 R65- Harmful: may cause lung damage if swallowed.
 R51/53- Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Contains

: naphthalene

Product use

: Industrial applications.

16 . Other information

*** draft only ***

History

Date of issue : 04/30/2008

Version : 1

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

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Xn : Harmful



N : Dangerous for the environment



9 : Miscellaneous dangerous substances and articles.

1 IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY / UNDERTAKING

Identification of the product : Liquid.
Company identification : Petrochem Energy SA
Poststrasse 14
CH 6301 Zug Switzerland
Trade name : PCE 5414
Type of product : Flow Improver
Use : Industrial.

2 HAZARDS IDENTIFICATION

Risk Phrases : Limited evidence of a carcinogenic effect.
Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Harmful : may cause lung damage if swallowed.

3 COMPOSITION / INFORMATION ON INGREDIENTS

Substance name	Contents	CAS No	EC No	Index No	Classification
Solvent naphtha (petroleum), heavy aromatic	: 30 - 60 %	64742-94-5	265-198-5	649-424-00-3	----- Xn; R65
1,2,4-trimethylbenzene	: 2.5 - 10 %	95-63-6	202-436-9	601-043-00-3	----- R10 Xn; R20 Xi; R36/37/38 N; R51-53
Naphthalene	: 2.5 - 5 %	91-20-3	202-049-5	601-052-00-2	----- Carc. Cat. 3; R40 Xn; R22 N; R50-53

4 FIRST AID MEASURES

First aid measures
- **Inhalation** : Assure fresh air breathing.
Seek medical advice.
- **Skin contact** : Remove contaminated clothing and shoes.
Wash skin with mild soap and water.
- **Eye contact** : In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- **Ingestion** : If swallowed, seek medical advice immediately and show this container or label.
General information : Remove immediately contaminated clothing.

5 FIRE-FIGHTING MEASURES

Extinguishing media
- **Suitable extinguishing media** : Foam.
Water spray.
Powder.
Carbon dioxide.

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5 FIRE-FIGHTING MEASURES (continued)

Specific hazards : Under fire conditions, hazardous fumes will be present. Carbon monoxide (CO)
Protection against fire : Use self-contained breathing apparatus when in close proximity to fire.

6 ACCIDENTAL RELEASE MEASURES

Personal precautions : Ventilate area.
Eliminate every possible source of ignition.
Wear suitable protective clothing and gloves.
Environmental precautions : Prevent entry to sewers and public waters.
Clean up methods : Clean up any spills as soon as possible, using an absorbent material to collect it.

7 HANDLING AND STORAGE

General : No naked lights. No smoking.
Precautions in handling and storage : Both local exhaust and good general room ventilation must be provided not only to control exposure but also to prevent formation of flammable mixtures.
Storage : Close container tightly after use.
Handling : Do not breathe gas, fumes, vapour or spray.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Personal protection
- **Respiratory protection** : In case of insufficient ventilation, wear suitable respiratory equipment.
- **Hand protection** : Wear suitable gloves resistant to chemical penetration.
- **Skin protection** : Wear suitable protective clothing.
- **Eye protection** : Chemical goggles or safety glasses.
Occupational Exposure Limits : 1,2,4-trimethylbenzene : TGG 15 min (nl) (mg/m³) : 200
1,2,4-trimethylbenzene : TGG 8 uur (nl) (mg/m³) : 100
Naphthalene : TGG 15 min (nl) (mg/m³) : 80
Naphthalene : TGG 8 uur (nl) (mg/m³) : 50

9 PHYSICAL AND CHEMICAL PROPERTIES

Physical state at 20 °C : Liquid.
Colour : Dark brown.
Pour point [°C] : approx. 3
Boiling point [°C] : > 180
Density [kg/m³] : ca. 900 (20 deg C)
Vapour pressure [hPa] : approx. 2 (20 deg C)
Viscosity : approx. 150 mPa.s at
Solubility in water : Material insoluble in water.
Flash point [°C] : > 60
Explosion limits - lower [%] : 0,6
Explosion limits - upper [%] : 2

10 STABILITY AND REACTIVITY

Hazardous decomposition products : No data available.

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10 STABILITY AND REACTIVITY (continued)

Hazardous reactions : None under normal conditions.

11 TOXICOLOGICAL INFORMATION

Other toxicological information : - Toxicological information on the ingredients. No data available.

12 ECOLOGICAL INFORMATION

Biodegradation [%] : 30-70 % Method: Respirometer test

13 DISPOSAL CONSIDERATIONS

General : Avoid release to the environment.
Comply with local regulations for disposal.

14 TRANSPORT INFORMATION

- Labelling ADR



Shipping name : UN3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Solvent naphtha (petroleum), heavy aromatic), 9, III

UN No. : 3082

H.I. nr : 90

Land transport

ADR/RID : Group : III
Class : 9

Sea transport

- IMO-IMDG code : 9

IMO Packing group : III

- IMDG-Marine pollution : Yes.

15 REGULATORY INFORMATION

- **Symbol(s)** : Xn : Harmful
N : Dangerous for the environment

- **R Phrase(s)** : R40 : Limited evidence of a carcinogenic effect.
R51/53 : Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R65 : Harmful : may cause lung damage if swallowed.

- **S Phrase(s)** : S35 : This material and its container must be disposed of in a safe way.
S51 : Use only in well-ventilated areas.
S59 : Refer to manufacturer/supplier for information on recovery/recycling.
S60 : This material and its container must be disposed of as hazardous waste.
S61 : Avoid release to the environment. Refer to special instructions/Safety data sheets.
S62 : If swallowed, do not induce vomiting : seek medical advice immediately and show this container or label.

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16 OTHER INFORMATION

Text of R-Phrases in § 3	: R10 : Flammable. R20 : Harmful by inhalation. R22 : Harmful if swallowed. R36/37/38 : Irritating to eyes, respiratory system and skin. R40 : Limited evidence of a carcinogenic effect. R50/53 : Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. R51/53 : Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. R65 : Harmful : may cause lung damage if swallowed.
Further information	: None.

The contents and format of this SDS are in accordance with EEC Commission Directive 2001/58EC.

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End of document

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Xn : Harmful



9 : Miscellaneous dangerous substances and articles.

1 IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY / UNDERTAKING

Company identification : Petrochem Energy SA
 Poststrasse 14
 CH 6301 Zug Switzerland
Trade name : PCE-9520
Type of product : Cetane Improver
Use : Industrial.

2 HAZARDS IDENTIFICATION

Risk Phrases : Harmful by inhalation and in contact with skin.
 Risk of explosion if heated under confinement.
 May cause long-term adverse effects in the aquatic environment.

3 COMPOSITION / INFORMATION ON INGREDIENTS

Substance name	Contents	CAS No	EC No	Index No	Classification
2-Ethylhexylnitrate	50 - 100 %	27247-96-7	248-363-6	-----	R44 Xn; R20/21 R53

4 FIRST AID MEASURES

First aid measures

- Inhalation : Assure fresh air breathing.
 If you feel unwell, seek medical advice.
 If breathing is difficult, give oxygen.
 If not breathing, give artificial respiration.
- Skin contact : Remove contaminated clothing and shoes.
 Wash skin with mild soap and water.
 Seek medical advice.
- Eye contact : In case of eye contact, immediately rinse with clean water for 10-15 minutes.
 Seek medical advice.
- Ingestion : DO NOT INDUCE VOMITING.
 Seek medical attention immediately.
 Rinse mouth.
 Never give anything by mouth to an unconscious person.
 If ingested may cause corrosion of gastrointestinal tract.

5 FIRE-FIGHTING MEASURES

Extinguishing media

- Suitable extinguishing media : Foam. Powder. Carbon dioxide. Water.
Surrounding fires : Use water spray or fog for cooling exposed containers.
Specific hazards : Toxic vapours.
 See also hazardous reaction § 10.

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5 FIRE-FIGHTING MEASURES (continued)

Protection against fire : Wear proper protective equipment.

6 ACCIDENTAL RELEASE MEASURES

Personal precautions : Wear suitable protective clothing and gloves.
Evacuate and limit access. Eliminate every possible source of ignition. No smoking.

Environmental precautions : Prevent entry to sewers and public waters.
Notify authorities if liquid enters sewers or public waters.

Clean up methods : Clean up any spills as soon as possible, using an absorbent material to collect it.

7 HANDLING AND STORAGE

General : No naked lights. No smoking.

Precautions in handling and storage : Both local exhaust and good general room ventilation must be provided not only to control exposure but also to prevent formation of flammable mixtures.

Storage : Close container tightly after use.
Keep away from heat.
Keep only in the original container in a cool, well ventilated place.

Handling : Do not breathe gas, fumes, vapour or spray.
Avoid contact with skin and eyes.
Keep away from sources of ignition - No smoking.
Wash hands and other exposed areas with mild soap and water before eat, drink or smoke and when leaving work.
S51 : Use only in well-ventilated areas.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Personal protection

- **Respiratory protection** : In case of insufficient ventilation, wear suitable respiratory equipment.
- **Hand protection** : Wear suitable gloves resistant to chemical penetration.
- **Skin protection** : Wear suitable protective clothing.
- **Eye protection** : Chemical goggles or safety glasses.

9 PHYSICAL AND CHEMICAL PROPERTIES

Physical state at 20 °C : Liquid.

Colour : Colourless to light yellow.

Odour : Characteristic.

Freezing point [°C] : -50

Boiling point [°C] : Not applicable

Density [kg/m³] : 963

Viscosity at 20°C [mPa.s] : 1.7

Solubility in water : 12.6 mg/l

Flash point [°C] : 80

Auto-ignition temperature [°C] : 130

Properties : Heat sensitive. Combustible.

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10 STABILITY AND REACTIVITY

- Hazardous decomposition products** : Carbon dioxide.
On exposure to high temperature, may decompose, releasing toxic vapours.
Carbon monoxide. Nitrogen oxides.
- Hazardous properties** : Incompatible with :
- Materials to avoid** : Acids. Alkali. Oxidizer.
- Conditions to avoid** : Temperature exceeding : 100 deg C An exothermic reaction may occur, causing a rapid rise in pressure and temperature, above

11 TOXICOLOGICAL INFORMATION

- Acute toxicity**
- Inhalation : Harmful by inhalation.
 - Dermal : Harmful in contact with skin.
 - Ocular : Slight irritant.
- Rat oral LD50 [mg/kg]** : > 9640
- Rabbit dermal LD50 [mg/kg]** : > 4820
- Mouse inhalation LC50 [mg/l/4h]** : 4.6

12 ECOLOGICAL INFORMATION

- LC50-96 Hour - fish [mg/l]** : > 100
- 48 H-CE50 - Daphnia magna [mg/l]** : > 12.6
- IC50 72h Algae [mg/l]** : > 12.5
- Persistence - degradability** : Not readily Biodegradable.
- WGK class (Germany)** : WGK (Water-endangerment class) : WGK = 2

13 DISPOSAL CONSIDERATIONS

- General** : Avoid release to the environment.
Comply with local regulations for disposal.

14 TRANSPORT INFORMATION

- Labelling ADR



- Shipping name** : UN3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (2-Ethylhexylnitrate), 9, III
- UN No.** : 3082
- H.I. nr** : 90
- Land transport**
- Tremcard nr. : 90GM6
 - ADR/RID : Class : 9
Group : III
- Sea transport**
- IMO-IMDG code : 9 / III
 - IMDG-Marine pollution : YES

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15 REGULATORY INFORMATION

- **Symbol(s)** : Xn : Harmful
- **R Phrase(s)** : R20/21 : Harmful by inhalation and in contact with skin.
R44 : Risk of explosion if heated under confinement.
R53 : May cause long-term adverse effects in the aquatic environment.
- **S Phrase(s)** : S9 : Keep container in a well-ventilated place.
S15 : Keep away from heat.
S23 : Do not breathe the gas, fumes, vapours, spray.
S25 : Avoid contact with eyes.
S36/37/39 : Wear suitable protective clothing, gloves and eye/face protection.
S41 : In case of fire and/or explosion, do not breathe fumes.

16 OTHER INFORMATION

- Text of R-Phrases in § 3** :
- Further information** : None.

The contents and format of this SDS are in accordance with EEC Commission Directive 2001/58EC.

DISCLAIMER OF LIABILITY The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.

End of document

SAFETY DATA SHEET

DCI-4A

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name : DCI-4A
Product code : 10151
Product description : Mixture
Product type : Liquid.

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses

Petrochemical industry: Petrochemicals. Fuel additive. Corrosion inhibitor

1.3 Details of the supplier of the safety data sheet

Supplier/Manufacturer : Innospec Limited
Innospec Manufacturing Park
Oil Sites Road
Ellesmere Port
Cheshire CH65 4EY
United Kingdom
Telephone no.: : +44 (0)151 355 3611
Fax no. : +44 (0)151 355 2349
e-mail address of person responsible for this SDS : sdsinfo@innospecinc.com
NON-emergency enquiries : corporatecommunications@innospecinc.com

1.4 Emergency telephone number

In Europe, Middle East, Africa, Asia Pacific and South America
24 hour/7 day emergency response for our products is
provided by the NCEC CARECHEM 24 global network



The main regional centres are listed here in Section 1.

Other local contact numbers for specific language support in Asia Pacific are listed in Section 16

Country information	Emergency telephone number	Location
Europe (all countries, all languages)	: +44 (0) 1235 239 670	London, UK
Middle East, Africa (Arabic, French, English)	: +44 (0) 1235 239 671	Lebanon
Middle East, Africa (French, Portuguese, English)	: +44 (0) 1235 239 670	London UK
Asia Pacific (all countries except China)	: +65 3158 1074	Singapore
China	: +86 10 5100 3039	Beijing China
South America (all countries)	: +1 215 207 0061	Philadelphia USA

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SECTION 1: Identification of the substance/mixture and of the company/undertaking

In USA, Canada and North America, 24 hour / 7 day emergency response for our product is provided by the CHEMTREC (R) Emergency Call Center based in the USA

Country information	: Emergency telephone number
USA	: 800 424 9300
Canada, Puerto Rico, Virgin Islands	: +1 800 424 9300
In case of difficulties, or for ships at sea	: +1 703 527 3887

See section 16.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Flam. Liq. 3, H226

Skin Irrit. 2, H315

Eye Irrit. 2, H319

Classification according to Directive 1999/45/EC [DPD]

The product is classified as dangerous according to Directive 1999/45/EC and its amendments.

: R10
Xn; R20/21
Xi; R38

See Section 16 for the full text of the R phrases or H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard pictograms :



Signal word : Warning

Hazard statements : H226 - Flammable liquid and vapour.
H315 - Causes serious eye irritation.
H319 - Causes skin irritation.

Supplemental label elements : Not applicable.

Precautionary statements

Prevention : P280 - Wear protective gloves: > 8 hours (breakthrough time): Viton®; 1 - 4 hours (breakthrough time): nitrile rubber. Wear eye or face protection: Recommended: splash goggles.
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P241 - Use explosion-proof electrical, ventilating, lighting and all material-handling equipment.

Response : P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.

Storage : P235 - Keep cool.

Disposal : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazardous ingredients : xylene

Special packaging requirements

Containers to be fitted with child-resistant fastenings : Not applicable.

Tactile warning of danger : Not applicable.

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SECTION 2: Hazards identification**2.3 Other hazards**

Other hazards which do : None known.
not result in classification

SECTION 3: Composition/information on ingredients

Substance/mixture : Mixture

Product/ingredient name	Identifiers	%	Classification		Type
			67/548/EEC	Regulation (EC) No. 1272/2008 [CLP]	
xylene	REACH #: Compliant EC: 215-535-7 CAS: 1330-20-7 Index: 601-022-00-9	>=20 - <25	R10 Xn; R20/21 Xi; R38	Flam. Liq. 3, H226 Acute Tox. 4, H312 Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Asp. Tox. 1, H304 Flam. Liq. 2, H225 Acute Tox. 4, H332	[1] [2]
ethylbenzene	REACH #: Compliant EC: 202-849-4 CAS: 100-41-4 Index: 601-023-00-4	>=3 - <7	F; R11 Xn; R20 See Section 16 for the full text of the R-phrases declared above.	 See Section 16 for the full text of the H statements declared above.	[1] [2]

Additional information**Type**

- [1] Substance classified with a health or environmental hazard
 [2] Substance with a workplace exposure limit
 [3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII
 [4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII
 [5] Substance of equivalent concern

Occupational exposure limits, if available, are listed in Section 8.

Our REACH (pre-) registrations DO NOT cover the following:

1. The manufacture of these products by our company outside the EU unless covered by the Only Representative provisions, and
2. The importation of these products into Europe by other companies. Re-importation by other companies is not covered by our (pre-) registrations

Customers and other third parties importing and/or re-importing our products into Europe will need either:

- Their own (pre-) registration for substances contained in the imported product, or constituent monomers (imported above 1 tonne per year and >2% by weight) in the case of imported polymers, or
- In the case of importation only, to make use of the "Only Representative" provisions, if available.

SECTION 4: First aid measures**4.1 Description of first aid measures**

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

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SECTION 4: First aid measures

- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

- Eye contact** : May cause eye irritation.
- Inhalation** : Harmful by inhalation.
- Skin contact** : Harmful in contact with skin. Irritating to skin.
- Ingestion** : Irritating to mouth, throat and stomach.

Over-exposure signs/symptoms

- Eye contact** : No specific data.
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:
irritation
redness
- Ingestion** : No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

- Suitable extinguishing media** : Use dry chemical, CO₂, water spray (fog) or foam.
- Unsuitable extinguishing media** : Do not use water jet.

5.2 Special hazards arising from the substance or mixture

- Hazards from the substance or mixture** : Flammable liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

5.3 Advice for firefighters

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SECTION 5: Firefighting measures

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also Section 8 for additional information on hygiene measures.

6.2 Environmental precautions

- : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product.

6.4 Reference to other sections

- : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting

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SECTION 7: Handling and storage**Advice on general occupational hygiene**

and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.

- : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

- : Store in accordance with local regulations. Store in a segregated and approved area. Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

7.3 Specific end use(s)**Recommendations**

- : Not available.

Industrial sector specific solutions

- : Not available.

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

8.1 Control parameters**Occupational exposure limits**

Product/ingredient name	Exposure limit values
xylene	EH40/2005 WELs (United Kingdom (UK), 12/2011). Absorbed through skin. STEL: 441 mg/m ³ , 0 times per shift, 15 minutes. TWA: 50 ppm, 0 times per shift, 8 hours. TWA: 220 mg/m ³ , 0 times per shift, 8 hours.
ethylbenzene	EH40/2005 WELs (United Kingdom (UK), 12/2011). Absorbed through skin. STEL: 100 ppm, 0 times per shift, 15 minutes. EH40/2005 WELs (United Kingdom (UK), 12/2011). Absorbed through skin. STEL: 552 mg/m ³ , 0 times per shift, 15 minutes. STEL: 125 ppm, 0 times per shift, 15 minutes. TWA: 100 ppm, 0 times per shift, 8 hours. TWA: 441 mg/m ³ , 0 times per shift, 8 hours.

Recommended monitoring procedures

- : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

No DELs available.

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SECTION 8: Exposure controls/personal protection

PNECs

No PECs available.

8.2 Exposure controls

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles. Recommended: splash goggles

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
> 8 hours (breakthrough time): Viton®
1 - 4 hours (breakthrough time): nitrile rubber

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves. Refer to European Standard EN 1149 for further information on material and design requirements and test methods.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Recommended: organic vapour filter (Type A)

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

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SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state	: Liquid. [Clear.]
Colour	: Brown. [Dark]
Odour	: Aromatic.
Odour threshold	: Not available.
pH	: Not available.
Melting point/freezing point	: Not available.
Initial boiling point and boiling range	: Lowest known value: 136.05°C (276.9°F) (ethylbenzene). Weighted average: 192.3°C (378.1°F)
Flash point	: Closed cup: >29°C (>84.2°F) [ASTM D93 (B)]
Evaporation rate	: Highest known value: 0.84 (ethylbenzene) Weighted average: 0.78 compared with butyl acetate
Flammability (solid, gas)	: Not available.
Burning time	: Not applicable.
Burning rate	: Not applicable.
Upper/lower flammability or explosive limits	: Greatest known range: Lower: 1% Upper: 7% (xylene)
Vapour pressure	: Highest known value: 1.2 kPa (9.3 mm Hg) (at 20°C) (ethylbenzene). Weighted average: 0.26 kPa (1.95 mm Hg) (at 20°C)
Vapour density	: Highest known value: 3.7 (Air = 1) (xylene). Weighted average: 3.7 (Air = 1)
Relative density	: 0.952
Density	: 0.95 g/cm ³ [15°C (59°F)]
Solubility(ies)	: Insoluble in the following materials: cold water, hot water.
Partition coefficient: n-octanol/water	: Not applicable.
Auto-ignition temperature	: Lowest known value: 431.85 to 459.85°C (809.3 to 859.7°F) (ethylbenzene).
Decomposition temperature	: Not available.
Viscosity	: Kinematic (room temperature): 1.62 cm ² /s (162 cSt) Kinematic (40°C (104°F)): 0.56 cm ² /s (56 cSt)
Explosive properties	: Not available.
Oxidising properties	: Not applicable.

9.2 Other information

Pour point	: <-39°C
------------	----------

SECTION 10: Stability and reactivity

10.1 Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
10.2 Chemical stability	: The product is stable.
10.3 Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid	: Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
10.5 Incompatible materials	: Reactive or incompatible with the following materials: oxidizing materials
10.6 Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

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SECTION 10: Stability and reactivity**SECTION 11: Toxicological information**

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Test	Species	Result	Dose
DCI-4A xylene	-	Rat	LD50 Oral	>16000 mg/kg
	-	Rabbit	LD50 Dermal	4320 mg/kg
ethylbenzene	-	Rat	LD50 Oral	4300 mg/kg
	-	Mouse	LC50	35500 mg/m ³
	-	Rabbit	Inhalation Vapour	4000 ppm
	-	Rabbit	Inhalation Vapour LD50 Dermal	>5000 mg/kg

Irritation/Corrosion

Product/ingredient name	Test	Species	Result
xylene	-	Rabbit	Eyes - Severe irritant -
	-	Rat	Skin - Mild irritant -
ethylbenzene	-	Rabbit	Skin - Moderate irritant -
	-	Rabbit	Eyes - Severe irritant -
	-	Rabbit	Skin - Mild irritant -

Information on the likely routes of exposure : Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

Eye contact : May cause eye irritation.
 Inhalation : Harmful by inhalation.
 Skin contact : Harmful in contact with skin. Irritating to skin.
 Ingestion : Irritating to mouth, throat and stomach.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.
 Inhalation : No specific data.
 Skin contact : Adverse symptoms may include the following:
 irritation
 redness
 Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposureShort term exposure

Potential immediate effects : Not available.
 Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.
 Potential delayed effects : Not available.

General : No known significant effects or critical hazards.
 Carcinogenicity : No known significant effects or critical hazards.

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SECTION 11: Toxicological information

Mutagenicity	: No known significant effects or critical hazards.
Teratogenicity	: No known significant effects or critical hazards.
Developmental effects	: No known significant effects or critical hazards.
Fertility effects	: No known significant effects or critical hazards.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Test	Species	Exposure	Result
xylene	-	Fish - Oncorhynchus mykiss	96 hours	Acute LC50 3.3 mg/l
ethylbenzene	-	Algae - Green algae - Pseudokirchneriella subcapitata	72 hours	Acute EC50 4600 µg/l Fresh water
	-	Algae - Green algae - Pseudokirchneriella subcapitata	96 hours	Acute EC50 3600 µg/l Fresh water
	-	Algae - Selenastrum capricornutum	48 hours	Acute EC50 7.2 mg/l
	-	Daphnia - Daphnia magna	48 hours	Acute EC50 2.93 mg/l
	-	Fish - Oncorhynchus mykiss	96 hours	Acute LC50 4.2 mg/l
	-	Algae - Green algae - Pseudokirchneriella subcapitata	96 hours	Chronic NOEC <1000 µg/l Fresh water
	-	Daphnia - Water flea - Daphnia magna	48 hours	Chronic NOEC 6800 µg/l Fresh water

12.2 Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
xylene	-	-	Readily
ethylbenzene	-	-	Readily

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
xylene	3.12 to 3.2	8.1 to 25.9	low
ethylbenzene	3.1	-	high

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

PBT : Not applicable.

vPvB : Not applicable.

12.6 Other adverse effects : No known significant effects or critical hazards.

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SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methodsProduct**Methods of disposal**

: The generation of waste should be avoided or minimised wherever possible. Waste product residues should not be disposed of via the sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

Hazardous waste

: The classification of the product may meet the criteria for a hazardous waste.





Packaging**Methods of disposal**

: The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions

: This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
14.1 UN number	UN1307	UN1307	UN1307	UN1307
14.2 UN proper shipping name	XYLENES solution	XYLENES solution	XYLENES solution	Xylenes solution
14.3 Transport hazard class(es)	3 	3 	3 	3 
14.4 Packing group	III	III	III	III
14.5 Environmental hazards	No.	Yes.	No.	No.
Additional information	Hazard identification number 30 Limited quantity 5 L Tunnel code (D/E)	The product is only regulated as an environmentally hazardous substance when transported in tank vessels.	Emergency schedules (EmS) F-E, S-D Special provisions 223	

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SECTION 14: Transport information

14.6 Special precautions for user				
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not available.			

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

EU Regulation (EC) No. 1907/2006 (REACH)Annex XIV - List of substances subject to authorisationSubstances of very high concern

None of the components are listed.

Annex XVII - Restrictions : Not applicable.
on the manufacture,
placing on the market and
use of certain dangerous
substances, mixtures and
articles

Other EU regulationsSeveso II Directive - Reporting thresholds (in tonnes)Danger criteria

Category	Notification and MAPP threshold	Safety report threshold
P5c: Flammable liquids 2 and 3 not falling under P5a or P5b	5000	50000
C6: Flammable (R10)	5000	50000

Black List Chemicals : Not listed

Priority List Chemicals : Not listed

Integrated pollution prevention and control list (IPPC) - Air : Not listed

Integrated pollution prevention and control list (IPPC) - Water : Not listed

Chemical Weapons Convention List Schedule I Chemicals : Not listed

Chemical Weapons Convention List Schedule II Chemicals : Not listed

Chemical Weapons Convention List Schedule III Chemicals : Not listed

International lists

Australia inventory (AICS) : All components are listed or exempted.

Date of issue/Date of revision : 2014-08-20

12/14

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SECTION 15: Regulatory information

Canada inventory	: All components are listed or exempted.
China inventory (IECSC)	: All components are listed or exempted.
EU Inventory	: All components are listed or exempted.
Japan inventory (ENCS)	: All components are listed or exempted.
Korea inventory (KECI)	: All components are listed or exempted.
New Zealand Inventory of Chemicals (NZIoC)	: All components are listed or exempted.
Philippines inventory (PICCS)	: All components are listed or exempted.
Taiwan inventory (CSNN)	: All components are listed or exempted.
United States inventory (TSCA 8b)	: All components are listed or exempted.

15.2 Chemical Safety Assessment : This product contains substances for which Chemical Safety Assessments are still required.

SECTION 16: Other information

☒ Indicates information that has changed from previously issued version.

Abbreviations and acronyms : ATE = Acute Toxicity Estimate
 CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
 DNEL = Derived No Effect Level
 EUH statement = CLP-specific Hazard statement
 PNEC = Predicted No Effect Concentration
 RRN = REACH Registration Number

Classification according to Directive 67/548/EEC [DSD] or Classification according to Directive 1999/45/EC [DPD]

Indication of danger : ~~Harmful~~
 Risk phrases : ~~R10- Flammable.~~
~~R20/21- Harmful by inhalation and in contact with skin.~~
~~R38- Irritating to skin.~~
 Safety phrases : ~~S36/37- Wear suitable protective clothing and gloves.~~

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Flam. Liq. 3, H226 Skin Irrit. 2, H315 Eye Irrit. 2, H319	On basis of test data Calculation method Calculation method

Full text of abbreviated H statements : H225 Highly flammable liquid and vapour.
 H226 Flammable liquid and vapour.
 H304 May be fatal if swallowed and enters airways.
 H312 Harmful in contact with skin.
 (dermal)
 H315 Causes skin irritation.
 H319 Causes serious eye irritation.
 H332 Harmful if inhaled.
 (inhalation)

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SECTION 16: Other information

Full text of classifications [CLP/GHS]	: Acute Tox. 4, H312 Acute Tox. 4, H332 Asp. Tox. 1, H304 Eye Irrit. 2, H319 Flam. Liq. 2, H225 Flam. Liq. 3, H226 Skin Irrit. 2, H315	ACUTE TOXICITY (dermal) - Category 4 ACUTE TOXICITY (inhalation) - Category 4 ASPIRATION HAZARD - Category 1 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2 FLAMMABLE LIQUIDS - Category 2 FLAMMABLE LIQUIDS - Category 3 SKIN CORROSION/IRRITATION - Category 2
Full text of abbreviated R phrases	: R11- Highly flammable. R10- Flammable. R20- Harmful by inhalation. R20/21- Harmful by inhalation and in contact with skin. R38- Irritating to skin.	
Full text of classifications [DSD/DPD]	: F - Highly flammable Xn - Harmful Xi - Irritant	
Date of printing	: 2014-08-20	
Date of issue/ Date of revision	: 2014-08-20	
Date of previous issue	: 2014-08-20	
Version	: 6.01	

Emergency contact numbers for local language support in Asia Pacific region

Country information	Languages supported	Telephone no.:	Location
Australia	English	+61 2 8014 4558	Australia
Bangladesh	Bengali, English	+65 3158 1200	Singapore
China	Mandarin, English	+86 10 5100 3039	Beijing China
India	Hindi, English	+65 3158 1198	Singapore
Indonesia (local toll free number)	Bahasa Indonesian, English	00780 3011 0293	Indonesia
Japan	Japanese, English	+81 3 4578 9341	Japan
Korea	Korean, English	+65 3158 1285	Singapore
Malaysia	Bahasa Malaysian, English	+60 3 6207 4347	Malaysia
New Zealand	English	+64 9929 1483	New Zealand
Pakistan	Urdu, English	+65 3158 1329	Singapore
Philippines	Tagalog, English	+65 3158 1203	Singapore
Sri Lanka	Sinhalese, English	+65 3158 1195	Singapore
Thailand (local toll free number)	Thai, English	001800 1 2066 6751	Thailand
Vietnam	Vietnamese, English	+65 3158 1255	Singapore

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

1. IDENTIFICATION OF THE PREPARATION AND COMPANY

Product name / Code Flow improver, FI 3100

Name, address and telephone number of company:

Rodanco BV
Marsmanstraat 17
1822 JE Alkmaar
The Netherlands
www.rodanco.nl
Telephone +31-72 561 25 71
Telefax +31- 72 561 58 32

2. COMPOSITION / INFORMATION OF INGREDIENTS**Chemical characterisation:****Description:**

Mixture of the substances listed below with nonhazardous additions.

Dangerous components:

CAS NO.	Description	%	Symbol	R-phrases
64742-95-6	Solvent naphtha (petroleum) Light aromatics	50-100	Xn, N	10, 20, 37, 51/53, 65, 66, 67
64742-47-8	Kerosene (petroleum)	10-20	Xn	65

3. HAZARD IDENTIFICATION OF THE PREPARATION

Hazard description: N Dangerous for the environment
 Xn Harmful

Information pertaining to particular dangers for man and environment:

Flammable.

Irritating to respiratory system.

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Harmful: may cause lung damage if swallowed.

Repeated exposure may cause skin dryness or cracking.

Vapours may cause drowsiness and dizziness.

Classification system:

The classification was made according to the latest editions of the EU lists, and expanded by company and literature data.

4. FIRST AID MEASURES**After inhalation:**

Supply with fresh air; consult doctor in case of complaints.

After eye contact:

Rinse opened eye for several minutes under running water. Consult doctor.

After skin contact:

Immediately wash with water and soap and rinse thoroughly.

After Swallowing: Do NOT induce vomiting. If symptoms persist consult doctor.

5. FIRE – FIGHTING MEASURES

Suitable extinguishing agents:

Water spray, CO2, extinguishing powder, foam, sand.

Protective equipment: Wear fully protective suit.

6. ACCIDENTAL RELEASE MEASURES

Person related safety precautions:

Wear protective equipment. Keep unprotected persons away.

Measures for environmental protection:

Do not allow to enter sewage and surface or ground water.

Measures for cleaning/collecting:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose of the materials collected according to regulations.

7. HANDLING AND STORAGE

Handling:

Information for safe handling: Avoid skin- and eye- contact.

Information about protection against explosions and fires:

Keep away from sources of ignition – NO smoking

Storage:

Requirements to be met by storerooms and receptacles:

Take precautionary measures against static discharges.

Information about storage in one common storage facility: Not required.

Further information about storage conditions:

Keep receptacle tightly sealed.

8. EXPOSURE CONTROLS / PERSONEL PROTECTION

Components with values that require monitoring at the workplace

Exposure limits:

64742-95-6 Solvent naphtha (petroleum) light aromatic

TWA (8) OEL: 100 mg/m³

OEL based on European Hydrocarbons Solvents producers (CEFIC-HSPA) methodology.

Additional information:

The lists that were valid during the creation were used as basis.

Personal protective equipment**General protective and hygienic measures:**

Keep away from foodstuffs, beverage and food.

Immediately wash all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Breathing equipment: Normally not required.**Hand protection:** Protective gloves.**Eye protection:** Goggles.**Skin protection:** Normal working clothing.**9. PHYSICAL AND CHEMICAL PROPERTIES**

Form	Yellowish clear liquid	
Flashpoint	Approx 55°C	Method PMCC
Viscosity at 40°C	< 100 mPa.s	Brookfield
Density at 20°C	Approx. 0,88 g/cm3	
Lower Explosion Limit	0,6 v/v%	
Upper Explosion Limit	6,0 v/v%	
Boiling point (range)	> 150°C	
PH (1% -solution)	NA	
Freezing point	Approx. - 9°C	
Solubility in water	Not soluble	

10. STABILITY AND REACTIVITY**Thermal decomposition/ conditions to be avoided:**

No decomposition if used according to specifications, avoid flames and sparks.

Dangerous reactions: None known**Dangerous products of decomposition:** >200 °C:LIBERATION OF ACETIC ACID**11. TOXICOLOGICAL INFORMATION****Acute toxicity:****LD/LC50 values that are relevant for classification:****LD50 product:** oral, rat > 2000 mg/kg**Primary irritant effect:****On the skin:** Irritation is possible**On the eye:** Irritation is possible

Sensitisation: No sensitising effects known

12. ECOLOGICAL INFORMATION

Information about elimination (persistence and degradability):

Biodegradability : < 80 %

Aquatic toxicity:

Fish-toxicity: LC50: 1-10 mg/l (analogy)

Behaviour in sewage processing plants:

In case of judicious use the product does not cause disturbances in water purification plants, according to the experiences made so far.

General notes:

Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water.

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into ground

13. INSTRUCTIONS FOR DISPOSAL

Product recommendation:

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Uncleaned packing recommendations:

Disposal must be made to official regulations

14. TRANSPORT INFORMATION

Transport/Additional information:

Land transport ADR/RID (cross-border):

Class: 3
UN-number: 1268
Packing group: III
Label: 3
Description of goods: Petroleum distillates, N.O.S.

Maritime transport IMDG:

Class: 3
UN number: 1268
Packing group: III
Marine pollutant: Marine pollutant
Label: 3
Proper shipping name: Petroleum distillates, N.O.S.

IATA:
Class: 3
UN number: 1268
Packing group: III
Label: 3
Proper shipping name: Petroleum distillates, N.O.S.

15. REGULATORY INFORMATION

Markings according to EU guidelines:

The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials

Code letter and hazard designation of product:

N Dangerous for the environment
Xn Harmful

Risk phrases:

R 10 Flammable.
R 37 Irritating to respiratory system.
R 51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R 65 Harmful: may cause lung damage if swallowed.
R 65 Harmful: may cause lung damage if swallowed.
R 66: Repeated exposure may cause skin dryness or cracking
R 67: Vapours may cause drowsiness and dizziness.

Safety phrases:

S 23 Do not breath vapour.
S 24 Avoid contact with skin.
S 61 Avoid release to the environment. Refer to special instructions/Safety data sheets.
S 62 If swallowed, do not induce vomiting, seek medical advice immediately and show this container or label.

National regulations

Water hazard class: 2 (Self-assessment): hazardous for water.

16. OTHER INFORMATION

It is always the responsibility of the user to take all necessary steps in order to fulfil the demand laid down in the local rules and regulations. The information in this MSDS is meant as a description of the safety requirements of our product. It is not to be considered as a guarantee of the products properties.

EC Risk Phrases:

R 10 Flammable.
R 20 Harmful by inhalation.
R 37 Irritating to respiratory system.
R 51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R 65	Harmful: may cause lung damage if swallowed.
R 65	Harmful: may cause lung damage if swallowed.
R 66:	Repeated exposure may cause skin dryness or cracking
R 67:	Vapours may cause drowsiness and dizziness.

Disclaim:

The information herein is given in good faith to the best of our knowledge but no warranty, express or implied, is made.



MATERIAL SAFETY DATA SHEET
According to REACH Regulation (EC) No. 1907/2006
HFA – 3033

Version: 8

Revisiondate: Januari 2009

www.wrtbv.com

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION

Gegevens over het preparaat

Preparation name:

HFA 3033

Use :

Cetane no. improver for the oil industry

Department of information:

WRT bv

Strawinskylaan 3067

1077 ZX Amsterdam

Nederland

Tel.: +31 20 644 2831

In case of emergency:

WRT bv

Tel.: +31 20 644 2831

2. HAZARD IDENTIFICATION

Human health: harmful when inhaled and in contact with skin. Risk of explosion if heated under confinement. In cases of severe exposure cyanosis may occur.

Do not let the product come into the environment, sewers, basements

SEE UNDER 16.

3.COMPOSITION / INFORMATION ON INGREDIENTS

Chemical characterisation (preparation)

Description: 2-ethylhexyl nitrate (2EHN)

Cas-No. : 27247-96-7

EINECS-No.: 248-363-6

Substance name: 2-ethylhexyl nitrate (2EHN)

R-phrases: R 8,20/21, 44

Symbols:  (Xn)

See under 16 for R-phrases

4. FIRST-AID MEASURES

General information:

Follow the general handling instructions for chemical/organic substances

Symptoms and effects:

irritation

Inhalation:

Remove to fresh air. Administer artificial respiration if breathing is stopped. Keep at rest.

Medical attention should be sought immediately.

On skin:	Remove contaminated clothing immediately and drench affected skin with plenty of water. Wash with soap and water. Contaminated clothing should be laundered before use. Seek medical attention if irritation persists.
In eyes:	Remove contact lenses. Immediately wash out with plenty of water for at least 15 minutes. Irrigate eyes thoroughly while lifting eyelids. Medical attention should be sought immediately.
If swallowed:	Do not induce vomiting because of risk of aspiration into the lungs. If aspiration is suspected obtain immediate medical attention. Rinse mouth with water (do not swallow). Never give anything to an unconscious person. Medical attention should be sought immediately.
Advice to doctor:	Treat as organic nitrate poisoning

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media:	For small fires; dry chemical powder or CO2 For large fires; water spray, foam (preferably alcohol resistant)
Unsuitable Extinguishing Media:	Water jet
Special exposure hazards:	Exhaust gases from fire or products of decomposition are toxic (they contain oxides of nitrogen and combustion products).
Special fire fighting procedures:	Drums and IBC's should be immediately cooled by spraying firewater from a fixed deluge.
Special Protective Equipment for fire-fighters:	Wear chemical protective clothing and use self contained breathing apparatus (SCBA)

6. ACCIDENTAL RELEASE MEASURES

Cleaning up: Dike and absorb spill with inert materials and collect for disposal in accordance with federal, state or other applicable laws and regulations.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to water-ways.

Personal precaution: Avoid contact with skin and eyes. Ensure adequate ventilation. Shut off all ignition sources. Wear appropriate protective equipment.

7. HANDLING AND STORAGE

Handling: Ensure good ventilation / suction at the workplace. Avoid open flames and sources of ignition. Avoid contact with eyes and skin.

Storage: Ensure that storage and workrooms are adequately ventilated.

Packaging material: SS, Epoxy coatings, HDPE

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

General Measures: Access to eye wash fountain.

Personal protection: Safety goggles. Protective gloves at prolonged or repeated exposure. Wear approved respirator if exposure likely to exceed MEL/OES.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form:	liquid
Colour:	transparent/light yellow
Smell:	fruity/sharp/ester/characteristic

Physical properties

pH:	Not applicable
Boilingpoint:	>100 °C
Meltingpoint:	-45 °C
Density (20°C) :	0,96 g/ml
Flashpoint:	70 °C
Viscosity:	1.8 mPas (20°C)
Vapourpressure:	27 Pa (20°C)
Solubility in water (20 °C):	12.6 mg/L

10. STABILITY AND REACTIVITY

Stability: Stable under normal conditions. Insoluble in water. May decompose on exposure to heat. In fire CO/CO₂ may be generated.

Conditions to avoid: incompatible with strong oxidising substances.

11. TOXICOLOGICAL INFORMATION

Acute toxicity: 2EHN has a low oral toxicity tested on animals

Inhalation: Inhalation can result in vasodilation (reduced blood pressure, and other cardiovascular effects to produce such symptoms as throbbing headache, flushing, light headiness, transient dizziness or weakness, heart palpitations, nausea, fatigue, confusion and possible loss of consciousness).

Skin contact: avoid skin contact can result in vasodilation (see above)

Eye contact: avoid eye contact can be irritating

Oral: LD₅₀ >5000 mg/kg (rat) not classified as harmful or toxic if swallowed

12. ECOLOGICAL INFORMATION

Persistence and degradability : Not applicable

Bioaccumulation: The substance is completely miscible with fat and has potential for bioaccumulation

Ecotoxicity: Slightly soluble in water

LC₅₀ (Danio rerio, 96 hour) : above solubility limit

EC₅₀ (Daphnia magna, 48 hours) : above solubility limit

If properly handled, no ecological problems are to be expected

13. DISPOSAL CONSIDERATIONS

·Use precautionary measures to prohibit product from coming into the environment via sewers or in household waste.

·All local and national regulations should be followed for disposal of product

14. TRANSPORT INFORMATION

ADR/RID class:	9 Combustible liquid
ADR name:	combustible liquid
ADR classification:	9, III
Label :	9
Danger classification:	90
Identificationnr.:	3082
IMDG	

Productname:	combustible liquid
Class:	9
Danger symbol:	3
UN number:	3082
Packaging group:	III

15. REGULATORY INFORMATION

Preparation name:	HFA 3033
Use:	Cetane no. improver for the oil industry
Description:	2-ethylhexyl nitrate (2EHN)

Label:	 Xn
--------	--

R-phrases	8, 20/21, 44
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R8	- contact with combustible material may cause fire
----	--

R20/21	- harmful by inhalation and in contact with skin
--------	--

R44	- Risk of explosion if heated under confinement.
-----	--

S-phrases	16, 17, 20/21, 24/25, 36/37/39, 38, 43, 46, 51, 57, 61
-----------	--

S16 – Keep away from ignition sources. Do not smoke.

S17 – Keep away from combustible liquids.

S20/21 – Do not eat, drink, or smoke while using product.

S24/25 – Avoid contact with eyes and skin.

S36/37/39 – Wear proper protective clothing, gloves, and protective gear for the eyes and face.

S38 – In case of insufficient ventilation wear SCBA.

S46 – in case of swallowing contact medical expert and show label

S51 – Use only in well ventilated spaces.

S57 – Use precautionary measures to prohibit product from contaminating the environment.

S61 – Do not release into the environment.

16. OTHER INFORMATION

R8	- contact with combustible material may cause fire
----	--

R20/21	- harmful by inhalation and in contact with skin
--------	--

R44	- risk of explosion if heated under confinement
-----	---

The information contained herein relates only to the specific material identified. WRT BV believes that such information is accurate and reliable as of the date of this material data sheet, but no representation, guarantee or warranty, express or implied, is made as to the accuracy, reliability or completeness of the information. WRT BV urges persons receiving this information to make their own determination as to the information's suitability and completeness for their particular application.

Publisher material safety data sheet: :
WRT BV, Producer of HFA Oil Additives ®
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1077 ZX Amsterdam
Tel: +31 (0)20 644 28 31
Fax: +31 (0)20 642 39 62
info@wrtbv.com
www.wrtbv.com



MATERIAL SAFETY DATA SHEET

(According to REACH Regulation (EC) No. 1907/2006)

HFA – 4079-1

Version: 1

Revision date: June 2010

www.wrtbv.com

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION

Preparation data

Product name:

HFA 4079-1

Use:

CFPP / PP improver for downstream products

Manufacturer/Distributor:

WRT bv

Strawinskylaan 3067

1077 ZX Amsterdam

Netherlands

Tel.: +31 20 644 2831

E-mail: info@wrtbv.com

Internet: www.wrtbv.com

In case of emergency:

WRT bv

Tel.: +31 20 644 2831

2. HAZARD IDENTIFICATION

There are no known hazards.

See also section 16.

3. COMPOSITION / INFORMATION INGREDIENTS

Chemical characterisation (preparation)

Description: EVA co-polymer preparation in high boiling hydrocarbon solvents

Concentration: 40-65 %

Cas-No. : 8008-20-6

EINECS-No.: 232-366-4

Substance name: Kerosene (petroleum); straight run

R-phrases: 10, 40, 36/37/38, 51/53, 65, 66, 67

Symbols: Xn



Also see 16 for R-phrases

4. FIRST AID MEASURES

General information:	Remove drenched clothes immediately.
Inhalation:	After inhalation seek medical attention.
On skin :	Remove contaminated clothing immediately and wash skin with water and soap.
In eyes :	Remove contact lenses. Immediately wash out with plenty of water for at least 15 minutes. Irrigate eyes thoroughly while lifting eyelids.
	MEDICAL ATTENTION SHOULD BE SOUGHT IMMEDIATELY
If swallowed:	If swallowed seek medical attention and show label.

5. FIRE FIGHTING MEASURES

Extinguishing media:	CO2, dry powder, foam.
Unsuitable extinguishing media:	DO NOT use strong water jet
Dangerous by-product:	carbon monoxide clouds can form
Protective clothing:	Wear protective clothing and self-contained breathing apparatus

6. ACCIDENTAL RELEASE MEASURES

Personal precautions :	Keep unprotected personnel at a distance Avoid contact with skin and eyes Ensure adequate ventilation Shut off all ignition sources Wear appropriate protective clothing
Environmental precautions :	Avoid runoff into sewers and ditches which lead to water-ways.
Cleaning up:	Dike and absorb spill with absorbent materials, Sand and collect for disposal in accordance with federal, state or other applicable laws and regulations. Vent well.

7. HANDLING AND STORAGE

Handling

Ensure good ventilation/suction at the workplace (S51)
Keep away from fire and heat.
Avoid open flames and sources of ignition
Avoid contact with skin and eyes
Avoid inhalation (S23).
When using do not eat, drink or smoke (S20/21).

Storage

Ensure that storage and workrooms are adequately ventilated.

Additional information

Keep container tightly closed in a well ventilated place.

8 EXPOSURE CONTROL / PERSONAL PROTECTION

Measures to contain exposure:

Do not inhale vapours. Avoid contact with skin. Avoid contact with eyes. Ventilate.

Personal protection:

Hygiene measures: wash soiled clothing immediately.

Respiratory protection: Use respiratory protection in case of insufficient exhaust ventilation or prolonged exposure

Hand protection: Gloves (oil resistant)

Eye protection: safety glasses

Body protection: protective clothes

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	liquid, viscous
Colour:	off white /amber
Odour:	aromatic
Pour point:	- 9 / 0 °C DIN / ISO 3016
Melting point:	Not defined
PH	N/A
Boiling point:	180 °C (1.013 mPa) DIN 51751
Flashpoint:	47 °C EN 22719
Ignition temp:	270 °C DIN 51794
Lower explosion limit:	0,6 % (V) DIN 51649
Upper explosion limit:	6,0 % (V) DIN 51649
Vapour pressure:	2 mPa (20 °C) DIN 51754
Density (40 °C):	0,9036 g/cm ³ DIN 51757
Solubility:	soluble in hydrocarbons
Viscosity	56.84 mm ² /s

Note: These data are typical for the product and are not a specification.

10. STABILITY AND REACTIVITY

Thermal decomposition: No decomposition if used as prescribed

Hazardous reactions: Un-cleaned empty vessels may contain product gases which can form explosive mixtures with air.
>200°C LIBERATION OF ACETIC ACID

11. TOXICOLOGICAL INFORMATION

Remarks: Toxicological data are not available.

The product was classified on the basis of the calculation procedure of the preparation directive (88/379/EC)

12. ECOLOGICAL INFORMATION

This information is based on knowledge of the present substances and on E.C. toxicological data from similar substances.

Biodegradability; approx 20 % (28 d) Method OECD 301 B.

Bacteria toxicity: EC50> 10g/l (activated sludge) Method OECD 209
 Remarks: By analogy with a product of similar composition


13. DISPOSAL CONSIDERATIONS

All local and national disposal regulations should be followed.

14. TRANSPORT INFORMATION

ADR/RID class:	3 Flammable liquid
ADR description:	Flammable liquid
ADR:	3, III
Danger symbol:	3
Hazard class:	30
Identification no.:	1993
IMDG	
Product name:	Kerosene
Hazard class:	3
Danger symbol:	3
UN no:	1993
Packaging group:	III

15. REGULATORY INFORMATION

Product name:	HFA 4079-1
Use:	CFPP Improver additive for downstream products
Description:	EVA co-polymer preparation in high boiling hydrocarbon solvents
Danger symbol:	Xn 
R-Phrases	10, 40, 36/37/38, 51/53, 65, 66, 67
R10	Flammable
R40	Limited evidence of a carcinogenic effect
R36/37/38	Irritating to eyes, respiratory system and skin
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R65	Harmful: may cause lung damage if swallowed
R66	Repeated exposure may cause skin dryness or cracking
R67	Vapors may cause drowsiness and dizziness
S-phrases	20/21, 23, 24/25, 26, 36/37/39, 38, 51, 57, 61
S20/21	When using do not eat, drink or smoke
S23	Do not breathe gas/fumes/vapour/spray
S24/25	Avoid contact with skin and eyes
S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
S36/37/39	Wear suitable protective clothing, gloves and eye/face protection
S38	In case of insufficient ventilation wear suitable respiratory equipment
S51	Use only in well-ventilated areas
S57	Use appropriate containment to avoid environmental contamination
S61	Avoid release to the environment

16. OTHER INFORMATION

R10	Flammable
R40	Limited evidence of a carcinogenic effect
R36/37/38	Irritating to eyes, respiratory system and skin
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R65	Harmful: may cause lung damage if swallowed
R66	Repeated exposure may cause skin dryness or cracking
R67	Vapors may cause drowsiness and dizziness

This information is based on our present state of knowledge. It should not therefore be construed as guaranteeing specific properties of the products prescribed or their suitability for a particular application.

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MATERIAL SAFETY DATA SHEET

(According to REACH Regulation (EC) No. 1907/2006)

HFA – 4225S

Version: 3

Date: March 2010

www.wrtbv.com

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION

Preparation data

Product name:

HFA 4225S

Use:

CFPP Improver additive for downstream products

Manufacturer/Distributor:

WRT bv

Strawinskylaan 3067

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Tel.: +31 20 644 2831

E-mail: info@wrtbv.com

Internet: www.wrtbv.com

In case of emergency:

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Tel.: +31 20 644 2831

2. HAZARD IDENTIFICATION

There are no known hazards.

See also section 16.

3. COMPOSITION / INFORMATION INGREDIENTS

Chemical characterisation (preparation)

Description: EVA co-polymer preparation in high boiling hydrocarbon solvents

Concentration: 70-75 %

Cas-No. : 8008-20-6

EINECS-No.: 232-366-4

Substance name: Kerosene (petroleum); straight run

R-phrases: 65



Symbols: Xn

Also see 16 for R-phrases

4. FIRST AID MEASURES

General information:	Remove drenched clothes immediately.
Inhalation:	After inhalation seek medical attention.
On skin :	Remove contaminated clothing immediately and wash skin with water and soap.
In eyes :	Remove contact lenses. Immediately wash out with plenty of water for at least 15 minutes. Irrigate eyes thoroughly while lifting eyelids.
	MEDICAL ATTENTION SHOULD BE SOUGHT IMMEDIATELY
If swallowed:	If swallowed seek medical attention and show label.

5. FIRE FIGHTING MEASURES

Extinguishing media:	CO2, dry powder, foam or water spray.
Unsuitable extinguishing media:	DO NOT use strong water jet
Dangerous by-product:	carbon monoxide clouds can form
Protective clothing:	Wear protective clothing and self-contained breathing apparatus

6. ACCIDENTAL RELEASE MEASURES

Personal precautions :	Keep unprotected personnel at a distance Avoid contact with skin and eyes Ensure adequate ventilation Shut off all ignition sources Wear appropriate protective clothing
Environmental precautions :	Avoid runoff into sewers and ditches which lead to water-ways.
Cleaning up:	Dike and absorb spill with absorbent materials, Sand and collect for disposal in accordance with federal, state or other applicable laws and regulations. Vent well.

7. HANDLING AND STORAGE

Handling

The shipping road tanker, railway wagon, or bulk container is normally at temperatures up to 80 °C, that is usually above the flashpoint.

Ensure good ventilation/suction at the workplace (S51)

Keep away from fire and heat.

Avoid open flames and sources of ignition

Avoid contact with skin and eyes

Avoid inhalation (S23).

When using do not eat, drink or smoke (S20/21).

Storage

Ensure that storage and workrooms are adequately ventilated.

Additional information

Keep container tightly closed in a well ventilated place.

8 EXPOSURE CONTROL / PERSONAL PROTECTION

Measures to contain exposure:

Do not inhale vapours. Avoid contact with skin. Avoid contact with eyes. If the product is dispatched in a heated condition. Take care for danger of scalding.

Personal protection:

Hygiene measures: wash soiled clothing immediately.

Respiratory protection: Use respiratory protection in case of insufficient exhaust ventilation or prolonged exposure

Hand protection: Gloves (oil resistant)

Eye protection: safety glasses

Body protection: protective clothes

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	liquid, viscous
Colour:	amber
Odour:	aromatic
Pour point:	- 6 °C DIN/ISO 3016
Melting point:	Not defined
PH	N/A
Boiling point:	180 °C (1.013 mPa) DIN 51751
Flashpoint:	60 °C EN 22719
Ignition temp:	270 °C DIN 51794
Lower explosion limit:	1,7 % (V) DIN 51649
Upper explosion limit:	7,4 % (V) DIN 51649
Vapour pressure:	1,9 mPa (20 °C) DIN 51754
Density (15 °C):	0,9002 – 0,9089 g/cm ³ D 51757
Soluble in water:	No
Solubility:	soluble in hydrocarbons
Viscosity (dynamic) :	315 mm ² /s(20°C) DIN 51562
Viscosity (kinematic):	362 mm ² /s(20°C) DIN 51562

Note: These data are typical for the product and are not a specification.

10. STABILITY AND REACTIVITY

Thermal decomposition: No decomposition if used as prescribed

Hazardous reactions: Un-cleaned empty vessels may contain product gases which can form explosive mixtures with air.
>200°C LIBERATION OF ACETIC ACID

11. TOXICOLOGICAL INFORMATION

Remarks: Toxicological data are not available.

The product was classified on the basis of the calculation procedure of the preparation directive (88/379/EC)

12. ECOLOGICAL INFORMATION

This information is based on knowledge of the present substances and on E.C. toxicological data from similar substances.

Biodegradability; approx 20 % (28 d) Method OECD 301 B.
Bacteria toxicity: EC50> 10g/l (activated sludge) Method OECD 209
Remarks: By analogy with a product of similar composition

13. DISPOSAL CONSIDERATIONS

All local and national disposal regulations should be followed.

14. TRANSPORT INFORMATION

ADR/RID class:	3 Flammable liquid
ADR description:	Flammable liquid
ADR:	3, III
Danger symbol:	3
Hazard class:	30
Identification no.:	1993
IMDG	
Product name:	Kerosene
Hazard class:	3
Danger symbol:	3
UN no:	1993
Packaging group:	III

15. REGULATORY INFORMATION

Product name:	HFA 4225S
Use:	CFPP Improver additive for downstream products
Description:	EVA co-polymer preparation in high boiling hydrocarbon solvents



Danger symbol:	Harmful (Xn)
R-Phrase	65
R65	Harmful: may cause lung damage if swallowed

S-phrases	20/21, 23, 24/25, 26, 36/37/39, 38, 51, 57, 61
S20/21	When using do not eat, drink or smoke
S23	Do not breathe gas/fumes/vapour/spray
S24/25	Avoid contact with skin and eyes
S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
S36/37/39	Wear suitable protective clothing, gloves and eye/face protection
S38	In case of insufficient ventilation wear suitable respiratory equipment
S51	Use only in well-ventilated areas
S57	Use appropriate containment to avoid environmental contamination
S61	Avoid release to the environment

16. OTHER INFORMATION

R65

Harmful: may cause lung damage if swallowed

This information is based on our present state of knowledge. It should not therefore be construed as guaranteeing specific properties of the products prescribed or their suitability for a particular application.

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MATERIAL SAFETY DATA SHEET

(According to REACH Regulation (EC) No. 1907/2006)

HFA – 4232

Revised Version: 3

Revision date: March 2010

www.wrtbv.com

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION

Preparation data

Product name:

HFA 4232

Use:

CFPP Improver additive for downstream products

Manufacturer/Distributor:

WRT bv

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2. HAZARD IDENTIFICATION

There are no known hazards.

See also section 16.

3. COMPOSITION / INFORMATION INGREDIENTS

Chemical characterisation (preparation)

Description: EVA co-polymer preparation in high boiling hydrocarbon solvents

Concentration: 40-50 %

Cas-No. : 8008-20-6

EINECS-No.: 232-366-4

Substance name: Kerosene (petroleum); straight run

R-phrases: 11, 38, 48/20/21/22, 63, 65, 66, 67

Symbols:



Also see 16 for R-phrases

4. FIRST AID MEASURES

General information:	Remove drenched clothes immediately.
Inhalation:	After inhalation seek medical attention.
On skin :	Remove contaminated clothing immediately and wash skin with water and soap.
In eyes :	Remove contact lenses. Immediately wash out with plenty of water for at least 15 minutes. Irrigate eyes thoroughly while lifting eyelids.
	MEDICAL ATTENTION SHOULD BE SOUGHT IMMEDIATELY
If swallowed:	If swallowed seek medical attention and show label.

5. FIRE FIGHTING MEASURES

Extinguishing media:	CO2, dry powder, foam.
Unsuitable extinguishing media:	DO NOT use strong water jet
Dangerous by-product:	carbon monoxide clouds can form
Protective clothing:	Wear protective clothing and self-contained breathing apparatus

6. ACCIDENTAL RELEASE MEASURES

Personal precautions :	Keep unprotected personnel at a distance Avoid contact with skin and eyes Ensure adequate ventilation Shut off all ignition sources Wear appropriate protective clothing
Environmental precautions :	Avoid runoff into sewers and ditches which lead to water-ways.
Cleaning up:	Dike and absorb spill with absorbent materials, Sand and collect for disposal in accordance with federal, state or other applicable laws and regulations. Vent well.

7. HANDLING AND STORAGE

Handling

Ensure good ventilation/suction at the workplace (S51)
Keep away from fire and heat.
Avoid open flames and sources of ignition
Avoid contact with skin and eyes
Avoid inhalation (S23).
When using do not eat, drink or smoke (S20/21).

Storage

Ensure that storage and workrooms are adequately ventilated.

Additional information

Keep container tightly closed in a well ventilated place.

8 EXPOSURE CONTROL / PERSONAL PROTECTION

Measures to contain exposure:

Do not inhale vapours. Avoid contact with skin. Avoid contact with eyes. Ventilate.

Personal protection:

Hygiene measures: wash soiled clothing immediately.

Respiratory protection: Use respiratory protection in case of insufficient exhaust ventilation or prolonged exposure

Hand protection: Gloves (oil resistant)

Eye protection: safety glasses

Body protection: protective clothes

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	liquid, viscous
Colour:	off white / transparant
Odour:	aromatic
Pour point:	- 6 °C DIN / ISO 3016
Melting point:	Not defined
PH	N/A
Boiling point:	180 °C (1.013 mPa) DIN 51751
Flashpoint:	54 °C EN 22719
Ignition temp:	275 °C DIN 51794
Lower explosion limit:	0,8 % (V) DIN 51649
Upper explosion limit:	7,3 % (V) DIN 51649
Vapour pressure:	2 mPa (20 °C) DIN 51754
Density (40 °C):	0,9035 – 0,9068 g/cm ³ DIN 51757
Solubility:	soluble in hydrocarbons
Viscosity(kinematic):	57.73 mm ² /s(40°C) DIN 51562

Note: These data are typical for the product and are not a specification.

10. STABILITY AND REACTIVITY

Thermal decomposition: No decomposition if used as prescribed

Hazardous reactions: Un-cleaned empty vessels may contain product gases which can form explosive mixtures with air.

>200°C LIBERATION OF ACETIC ACID

11. TOXICOLOGICAL INFORMATION

Remarks: Toxicological data are not available.

The product was classified on the basis of the calculation procedure of the preparation directive (88/379/EC)

12. ECOLOGICAL INFORMATION

This information is based on knowledge of the present substances and on E.C. toxicological data from similar substances.

Biodegradability;	approx 20 % (28 d) Method OECD 301 B.
Bacteria toxicity:	EC50> 10g/l (activated sludge) Method OECD 209
Remarks:	By analogy with a product of similar composition



13. DISPOSAL CONSIDERATIONS

All local and national disposal regulations should be followed.

14. TRANSPORT INFORMATION

ADR/RID class:	3 Flammable liquid
ADR description:	Flammable liquid
ADR:	3, III
Danger symbol:	3
Hazard class:	30
Identification no.:	1993
IMDG	
Product name:	Kerosene
Hazard class:	3
Danger symbol:	3
UN no:	1993
Packaging group:	III

15. REGULATORY INFORMATION

Product name:	HFA 4232
Use:	CFPP Improver additive for downstream products
Description:	EVA co-polymer preparation in high boiling hydrocarbon solvents
Danger symbol:	Xn  , F 
R-Phrases	11, 38, 48/20/21/22, 63, 65, 66, 67
R11	Highly flammable
R20	Harmful by inhalation
R38	Irritating to skin
R48/20/21/22	Harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.
R63	Possible risk of harm to the unborn child
R65	Harmful: may cause lung damage if swallowed
R66	Repeated exposure may cause skin dryness or cracking
R67	Vapors may cause drowsiness and dizziness
S-phrases	20/21, 23, 24/25, 26, 36/37/39, 38, 51, 57, 61
S20/21	When using do not eat, drink or smoke
S23	Do not breathe gas/fumes/vapour/spray
S24/25	Avoid contact with skin and eyes
S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
S36/37/39	Wear suitable protective clothing, gloves and eye/face protection
S38	In case of insufficient ventilation wear suitable respiratory equipment
S51	Use only in well-ventilated areas
S57	Use appropriate containment to avoid environmental contamination
S61	Avoid release to the environment

16. OTHER INFORMATION

R11	Highly flammable
R20	Harmful by inhalation
R38	Irritating to skin
R48/20/21/22	Harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.
R63	Possible risk of harm to the unborn child
R65	Harmful: may cause lung damage if swallowed
R66	Repeated exposure may cause skin dryness or cracking
R67	Vapors may cause drowsiness and dizziness

This information is based on our present state of knowledge. It should not therefore be construed as guaranteeing specific properties of the products prescribed or their suitability for a particular application.

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MATERIAL SAFETY DATA SHEET

(According to REACH Regulation (EC) No. 1907/2006)

HFA – 4860

Version: 2

Revision date: January 2009

www.wrtbv.com

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION

Preparation data

Product name:

HFA 4114

Use:

CFPP Improver additive for downstream products

Manufacturer/Distributor:

WRT bv

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2. HAZARD IDENTIFICATION

There are no known hazards.

See also section 16.

3. COMPOSITION / INFORMATION INGREDIENTS

Chemical characterisation (preparation)

Description: EVA co-polymer preparation in high boiling hydrocarbon solvents

Concentration: 40-50 %

Cas-No. : 8008-20-6

EINECS-No.: 232-366-4

Substance name: Kerosene (petroleum); straight run

R-phrases: 65



Symbols: Xn

Also see 16 for R-phrases

4. FIRST AID MEASURES

General information:	Remove drenched clothes immediately.
Inhalation:	After inhalation seek medical attention.
On skin :	Remove contaminated clothing immediately and wash skin with water and soap.
In eyes :	Remove contact lenses. Immediately wash out with plenty of water for at least 15 minutes. Irrigate eyes thoroughly while lifting eyelids.
	MEDICAL ATTENTION SHOULD BE SOUGHT IMMEDIATELY
If swallowed:	If swallowed seek medical attention and show label.

5. FIRE FIGHTING MEASURES

Extinguishing media:	CO2, dry powder, foam or water spray.
Unsuitable extinguishing media:	DO NOT use strong water jet
Dangerous by-product:	carbon monoxide clouds can form
Protective clothing:	Wear protective clothing and self-contained breathing apparatus

6. ACCIDENTAL RELEASE MEASURES

Personal precautions :	Keep unprotected personnel at a distance Avoid contact with skin and eyes Ensure adequate ventilation Shut off all ignition sources Wear appropriate protective clothing
Environmental precautions :	Avoid runoff into sewers and ditches which lead to water-ways.
Cleaning up:	Dike and absorb spill with absorbent materials, Sand and collect for disposal in accordance with federal, state or other applicable laws and regulations. Vent well.

7. HANDLING AND STORAGE

Handling

The shipping road tanker, railway wagon, or bulk container is normally at temperatures up to 80 °C, that is usually above the flashpoint.

Ensure good ventilation/suction at the workplace (S51)

Keep away from fire and heat.

Avoid open flames and sources of ignition

Avoid contact with skin and eyes

Avoid inhalation (S23).

When using do not eat, drink or smoke (S20/21).

Storage

Ensure that storage and workrooms are adequately ventilated.

Additional information

Keep container tightly closed in a well ventilated place.

8 EXPOSURE CONTROL / PERSONAL PROTECTION

Measures to contain exposure:

Do not inhale vapours. Avoid contact with skin. Avoid contact with eyes. If the product is dispatched in a heated condition. Take care for danger of scalding.

Personal protection:

Hygiene measures: wash soiled clothing immediately.

Respiratory protection: Use respiratory protection in case of insufficient exhaust ventilation or prolonged exposure

Hand protection: Gloves (oil resistant)

Eye protection: safety glasses

Body protection: protective clothes

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	liquid, viscous
Colour:	off white / transparant
Odour:	aromatic
Pour point:	- 18 °C DIN / ISO 3016
Melting point:	Not defined
PH	N/A
Boiling point:	180 °C (1.013 mPa) DIN 51751
Flashpoint:	60 °C EN 22719
Ignition temp:	280 °C DIN 51794
Lower explosion limit:	0,6 % (V) DIN 51649
Upper explosion limit:	6,0 % (V) DIN 51649
Vapour pressure:	2 mPa (20 °C) DIN 51754
Density (40 °C):	0,8998 – 0,9055 g/cm ³ DIN 51757
Solubility:	soluble in hydrocarbons
Viscosity(dynamic):	75 mPas (40°C) DIN 51562
Viscosity(kinematic):	95 mm ² /s(40°C) DIN 5156 2

Note: These data are typical for the product and are not a specification.

10. STABILITY AND REACTIVITY

Thermal decomposition: No decomposition if used as prescribed

Hazardous reactions: Un-cleaned empty vessels may contain product gases which can form explosive mixtures with air.
>200°C LIBERATION OF ACETIC ACID

11. TOXICOLOGICAL INFORMATION

Remarks: Toxicological data are not available.

The product was classified on the basis of the calculation procedure of the preparation directive (88/379/EC)

12. ECOLOGICAL INFORMATION

This information is based on knowledge of the present substances and on E.C. toxicological data from similar substances.

Biodegradability; approx 20 % (28 d) Method OECD 301 B.
 Bacteria toxicity: EC50> 10g/l (activated sludge) Method OECD 209
 Remarks: By analogy with a product of similar composition

13. DISPOSAL CONSIDERATIONS

All local and national disposal regulations should be followed.

14. TRANSPORT INFORMATION

ADR/RID class:	3 Flammable liquid
ADR description:	Flammable liquid
ADR:	3, III
Danger symbol:	3
Hazard class:	30
Identification no.:	1993
IMDG	
Product name:	Kerosene
Hazard class:	3
Danger symbol:	3
UN no:	1993
Packaging group:	III

15. REGULATORY INFORMATION

Product name:	HFA 4860
Use:	CFPP Improver additive for downstream products
Description:	EVA co-polymer preparation in high boiling hydrocarbon solvents



Danger symbol:	Harmful (Xn)
R-Phrase	65
R65	Harmful: may cause lung damage if swallowed

S-phrases	20/21, 23, 24/25, 26, 36/37/39, 38, 51, 57, 61
S20/21	When using do not eat, drink or smoke
S23	Do not breathe gas/fumes/vapour/spray
S24/25	Avoid contact with skin and eyes
S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
S36/37/39	Wear suitable protective clothing, gloves and eye/face protection
S38	In case of insufficient ventilation wear suitable respiratory equipment
S51	Use only in well-ventilated areas
S57	Use appropriate containment to avoid environmental contamination
S61	Avoid release to the environment

16. OTHER INFORMATION

R65

Harmful: may cause lung damage if swallowed

This information is based on our present state of knowledge. It should not therefore be construed as guaranteeing specific properties of the products prescribed or their suitability for a particular application.

Publisher Material Safety Data Sheet (MSDS):

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MATERIAL SAFETY DATA SHEET
According to REACH Regulation (EC) No. 1907/2006
HFA – 6126M

Revised Version: 2
Revision date: juni 2009

www.wrtbv.com

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION

Preparation name:	HFA 6126M
Use :	H2S Scavenger
Department of information:	WRT bv Strawinskylaan 3067 1077 ZX Amsterdam Nederland Tel.: +31 20 644 2831
In case of emergency:	WRT bv Tel.: +31 20 644 2831

2. HAZARD IDENTIFICATION

Product is flammable. Irritant, can be absorbed through skin and enter body through inhalation and swallowing.

Do not let the product come into the environment, sewers, basements. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Avoid oxidising agents.

SEE UNDER 16.

3.COMPOSITION / INFORMATION ON INGREDIENTS

Chemical characterisation (preparation)

Description: cobalt catalyzed combination of caustic soda and oxidizing agents in an aqueous solution

Substance name: Bioethanol
Cas-No. : 64-17-5
EINECS-No.: 200-578-6

Substance name: Caustic soda
Cas-No. : 1310-73-2
EINECS-No.: 215-185-5

Substance name: Cobalt
Cas-No. : 3317-67-7
EINECS-No.: 222-012-7

R-phrases: 10, 20/21/22, 36/38, 52/53

S-phrases: S 16, 17, 20/21, 23, 24/25, 26, 27/28, 36/37/39, 38, 43,46, 51, 57, 61

Symbols:  F ,  Xn,  N
See under 16 for R-phrases

4. FIRST-AID MEASURES

General information:	Follow the general handling instructions for chemical/organic substances
Symptoms and effects:	irritation
Inhalation:	Remove to fresh air. Administer artificial respiration if breathing is stopped. Keep at rest. MEDICAL ATTENTION SHOULD BE SOUGHT IMMEDIATELY
On skin:	Remove contaminated clothing immediately and drench affected skin with plenty of water. Wash with soap and water. Contaminated clothing should be laundered before use MEDICAL ATTENTION SHOULD BE SOUGHT IMMEDIATELY
In eyes:	Remove contact lenses. Immediately wash out with plenty of water for at least 15 minutes. Irrigate eyes thoroughly while lifting eyelids. MEDICAL ATTENTION SHOULD BE SOUGHT IMMEDIATELY
If swallowed:	Do not induce vomiting because of risk of aspiration into the lungs. If aspiration is suspected obtain immediate medical attention. Rinse mouth with water (do not swallow). Never give anything to an unconscious person. MEDICAL ATTENTION SHOULD BE SOUGHT IMMEDIATELY

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media:	For small fires; dry chemical powder or CO2 For large fires; water spray, foam (preferably alcohol resistant)
Unsuitable Extinguishing Media:	Water jet
Special exposure hazards:	Exhaust gases from fire or products of decomposition are toxic (they contain oxides of nitrogen and combustion products).
Special fire fighting procedures:	Drums and IBC's should be immediately cooled by spraying firewater from a fixed deluge.
Special Protective Equipment for fire-fighters:	Wear chemical protective clothing and use self contained breathing apparatus (SCBA)

6. ACCIDENTAL RELEASE MEASURES

Cleaning up: Dike and absorb spill with inert materials and collect for disposal in accordance with federal, state or other applicable laws and regulations.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to water-ways.

Personal precaution: Avoid contact with skin and eyes. Ensure adequate ventilation. Shut off all ignition sources. Wear appropriate protective equipment. Keep unprotected persons Away.

7. HANDLING AND STORAGE

Handling: Handle as flammable liquid
 Ensure good ventilation / suction at the workplace. Avoid open flames and sources of ignition. Avoid contact with eyes and skin. When using do not eat drink or smoke. Take precautionary measures against static discharges.

Storage: Observe official regulations on storing packaging and containers. Keep container tightly sealed. Ensure that storage and workrooms are adequately ventilated.

Packaging material: Stainless Steel, Epoxy coatings, HDPE

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

General Measures: Use adequate ventilation to keep vapour concentration below flammable limits. **3,4 – 19 % in air**

Personal protection: see below

Eye/face protection:

Access to eye wash fountain. Safety goggles.

Skin protection:

Protective gloves and chemical protective clothing at prolonged or repeated exposure.

Respiratory protection

Use a positive pressure, air supplied respirator if there is a potential for uncontrolled release, if exposure levels are not known, in oxygen deficient atmospheres, or any other circumstances where air-purifying respirator may not provide adequate protection.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form: liquid

Colour: dark blue / green

Smell: N/A

Physical properties

pH: Not applicable

Boiling point: 72 °C

Pour point: - 25 °C

Density (15 °C) : 0,9903 – 0.9922 g/cm³

Flashpoint: 26 °C

Viscosity: 1,344 mPas (20°C)

Solubility: soluble in hydrocarbons and water

10. STABILITY AND REACTIVITY

Stability: Stable under normal conditions/indecomposable. Soluble in water.

Conditions to avoid: incompatible with strong oxidising substances.

Dangerous substances of decomposition: CO, CO₂

11. TOXICOLOGICAL INFORMATION

Acute Oral EC₅₀ (rat): 33 mg/l

Acute Inhalation LC₅₀: 2,3 mg/Lt (rat: 4 hours)

Eye irritation(human): mildly irritating. Will cause slight eye discomfort, but will not injure eye tissue

LD₅₀ dermal (rat) > 1155 mg/kg can cause dehydration of the skin

Primary dermal irritation (rabbits): non irritating

Primary mucous membrane: non irritating

12. ECOLOGICAL INFORMATION

Persistence and degradability : N/A

Ecotoxicity: Marine pollutant, large volumes may penetrate soil and contaminate groundwater

Do not allow preparation to reach ground water, water bodies and sewage systems.
If properly handled, no ecological problems are to be expected

13. DISPOSAL CONSIDERATIONS




·Use precautionary measures to prohibit product from coming into the environment via sewers or in household waste.

·All local and national regulations should be followed for disposal of product

14. TRANSPORT INFORMATION

ADR/RID class:	3 Flammable liquids, n.o.s.
ADR name:	3
ADR classification:	3, III
Identificationnr.:	1993
IMDG	
Productname:	1993, Flammable liquids, n.o.s.
Class:	3
UN number:	1993
Packaging group:	III

15. REGULATORY INFORMATION

Preparation name:	HFA 6126M
Use:	H2S Scavenger
Description:	: cobalt catalyzed combination of caustic soda and oxidizing agents in an aqueous solution
Label:	 F ,  Xn,  N
R-phrases	10, 20/21/22, 36/38, 52/53
R10	Flammable
R20/21/22	Harmful by inhalation, in contact with skin and if swallowed
R36/38	Irritating to eyes and skin
R52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment
S-phrases	16, 17, 20/21, 23, 24/25, 26, 27/28, 36/37/39, 38, 43, 46, 51, 57, 61
S16	– Keep away from ignition sources. Do not smoke.
S17	– Keep away from combustible liquids.
S20/21	– Do not eat, drink, or smoke while using product.
S23	– Do not breathe gas/fumes/vapor/spray
S24/25	– Avoid contact with eyes and skin.
S27/28	– After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water.
S26	– In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
S36/37/39	– Wear proper protective clothing, gloves, and protective gear for the eyes and face.
S38	– In case of insufficient ventilation wear SCBA.

S43 – In case of fire use alcohol resistant extinguishers.

S46 – in case of swallowing contact medical expert and show label

S51 – Use only in well ventilated spaces.

S57 – Use precautionary measures to prohibit product from contaminating the environment.

S61 – Do not release into the environment.

16. OTHER INFORMATION

R10

R20/21/22

R36/38

R52/53

Flammable

Harmful by inhalation, in contact with skin and if swallowed

Irritating to eyes and skin

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment

The information contained herein relates only to the specific material identified. WRT BV believes that such information is accurate and reliable as of the date of this material data sheet, but no representation, guarantee or warranty, express or implied, is made as to the accuracy, reliability or completeness of the information. WRT BV urges persons receiving this information to make their own determination as to the information's suitability and completeness for their particular application.

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MATERIAL SAFETY DATA SHEET

(According to REACH Regulation (EC) No. 1907/2006)

HFA – 7025

Version: 8

Revision date: January 2009

www.wrtbv.com

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION

Preparation data

Product name:

HFA 7025

Use:

Lubricity Improver

Manufacturer/Distributor:

WRT bv

Strawinskylaan 3067

1077 ZX Amsterdam

Netherlands

Tel.: +31 20 644 2831

E-mail: info@wrtbv.com

Internet: www.wrtbv.com

In case of emergency:

WRT bv

Tel.: +31 20 644 2831

2. HAZARD IDENTIFICATION

Can be irritating to the eyes and skin.

Avoid runoff into sewers and ditches which lead to water-ways.

See also section 16.

3. COMPOSITION / INFORMATION INGREDIENTS

Chemical characterisation (preparation)

Description: neutralized blend of tall oil fatty acids

Cas-No. : 61790-12-3

EINECS-No.: 263-107-3

Substance name: tall oil fatty acids

R-phrases: 36/38

Symbols: N/A

Also see 16 for R-phrases

4. FIRST AID MEASURES

General information:

Remove drenched clothes immediately.

Inhalation:

N/A

On skin :	Remove contaminated clothing immediately and wash skin with water and soap.
In eyes :	Remove contact lenses. Immediately wash out with plenty of water for at least 15 minutes. Irrigate eyes thoroughly while lifting eyelids.
If swallowed:	MEDICAL ATTENTION SHOULD BE SOUGHT IMMEDIATELY Do not induce vomiting. Rinse mouth with water.

5. FIRE FIGHTING MEASURES

Extinguishing media:	CO2, dry powder, foam of water spray.
Unsuitable extinguishing media:	unknown
Dangerous by-product:	Irritating vapour clouds can form
Protective clothing:	Wear protective clothing and self-contained breathing apparatus

6. ACCIDENTAL RELEASE MEASURES

Personal precautions :	Keep unprotected personnel at a distance Avoid contact with skin and eyes Ensure adequate ventilation Shut off all ignition sources Wear appropriate protective clothing
Environmental precautions :	Avoid runoff into sewers and ditches which lead to water-ways.
Cleaning up:	Dike and absorb spill with absorbent materials, Sand and collect for disposal in accordance with federal, state or other applicable laws and regulations. Vent well.

7. HANDLING AND STORAGE

Handling

Ensure good ventilation/suction at the workplace (S51)
Keep away from fire and heat.
Avoid open flames and sources of ignition
Avoid contact with skin and eyes
Avoid inhalation of mist or vapours (S23).
When using do not eat, drink or smoke (S20/21).

Storage

Ensure that storage and workrooms are adequately ventilated.

Additional information

Keep container tightly closed in a well ventilated place.
Stainless steel, HDPE

8 EXPOSURE CONTROL / PERSONAL PROTECTION

Measures to contain exposure:

Launder clothing before re-use. Good general ventilation is necessary.

Personal protection:

Hygiene measures: wash soiled clothing immediately.

Hand protection: Gloves (oil resistant)

Eye protection: safety glasses

Body protection: protective clothes

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	liquid, viscous
Colour:	light yellow
Odour:	characteristic
Melting point:	- 8 °C
PH	+/- 7
Boiling point:	> 200°C
Flashpoint:	> 90 °C
Ignition temp:	N/A
Lower explosion limit:	N/A
Upper explosion limit:	N/A
Vapour pressure:	3 mPa
Density (20 °C):	0,90 g/cm ³
Solubility:	soluble in oil, naptha, aromatic solvents. Dispersible in water
Viscosity:	35mPas (20°C)

Note: These data are typical for the product and are not a specification.

10. STABILITY AND REACTIVITY

Thermal decomposition: No decomposition if used as prescribed

Hazardous reactions: conditions to avoid: excessive heat

11. TOXICOLOGICAL INFORMATION

This information is based on knowledge of the present substances and on E.C. toxicological data from similar substances.

Skin contact: avoid; can cause irritation

Eye contact: avoid; can cause irritation

Ingestion: oleic acid: LD50 oral, rat 74 g/kg
Linoleic acid: LD50, oral, rat > 3,2 g/kg

12. ECOLOGICAL INFORMATION

Persistence and degradability : > 80% in 28 days (OESO 301F)
 Bioaccumulation: log₁₀ Pow = 4,89 -5,98
 Eco-toxicity: Fish LL50 (96 hours) > 10.000 mg/l (OESO 203)
 Daphnia EL50 (48 hours) >10.000 mg/l (OESO 202)
 Algae EbL50 (72 hours) > 1000 mg/l (OESO 201)
 NOEC > 1000 mg/l
 Bacteria E50>10.000 mg/l (ISO 10712)
 NOEC > 10.000 mg/l

13. DISPOSAL CONSIDERATIONS

All local and national disposal regulations should be followed.

14. TRANSPORT INFORMATION

ADR/RID class:	N/A
ADR description:	N/A
ADR:	N/A
Danger symbol:	N/A
Hazard class:	N/A
Identification no.:	N/A
IMDG	
Product name:	N/A
Hazard class:	N/A
Danger symbol:	N/A
UN no:	N/A
Packaging group:	N/A

15. REGULATORY INFORMATION

Product name:	HFA 7025
Use:	Lubricity Improver
Description:	neutralized blend of tall oil fatty acids
Danger symbol:	N/A
R-Phrase	36/38
R36/38	Irritating to eyes and skin
S-phrases	20/21, 24/25, 26, 36/37/39, 46, 51, 57, 61
S20/21	When using do not eat, drink or smoke
S24/25	Avoid contact with skin and eyes
S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
S36/37/39	Wear suitable protective clothing, gloves and eye/face protection
S46	If swallowed, seek medical advice immediately and show this container or label
S51	Use only in well-ventilated areas
S57	Use appropriate containment to avoid environmental contamination
S61	Avoid release to the environment

16. OTHER INFORMATION

R36/38	Irritating to eyes and skin
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This information is based on our present state of knowledge. It should not therefore be construed as guaranteeing specific properties of the products prescribed or their suitability for a particular application.

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SECTION 1: Identification of the substance/mixture and of the company/undertaking

- **1.1 Product identifier**
- **Trade name:** **HFA 76**
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
Bactericide
- **Sector of Use** SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites
- **Product category** PC13 Fuels
- **Application of the substance / the mixture** Bactericide
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
WRT B.V.
Strawinskylaan 3067
1077ZX Amsterdam
The Netherlands
Tel.: 00-31-(0)20-644 2831
Fax.: 00-31-(0)20-642 3962
info@wrtbv.com
- **Further information obtainable from:**
Product Safety Department
Tel.: 00-31-(0)-644 2831
info@wrtbv.com
Support is only given in the following languages: Dutch, English and German
- **1.4 Emergency telephone number:**
Product Safety department
In case of a spill or accident, you can contact us at:
Tel.: 00-31-(0)20-644 2831
During office hours we can be contacted for general information at
Tel.: 00-31-(0)20-6442831
Support is only given in the following languages: Dutch, English, and German

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS05 corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.
Eye Dam. 1 H318 Causes serious eye damage.



GHS07

Skin Sens. 1 H317 May cause an allergic skin reaction.
Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



C; Corrosive

R34: Causes burns.



Xi; Sensitising

R43: May cause sensitisation by skin contact.
R33-52/53: Danger of cumulative effects. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

(Contd. on page 2)

Trade name: HFA 76

(Contd. of page 1)

Information concerning particular hazards for human and environment:

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

Classification system:

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the CLP regulation.

Hazard pictograms



GHS05 GHS07

Signal word Danger

Hazard-determining components of labelling:

mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2Hiso-thiazol-3-one [EC no. 220-239-6] (3:1) mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-4-isothiazolin-3-one [EC no. 220-239-6] (3:1)

Hazard statements

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER/doctor.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.









vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

3.2 Chemical characterisation: Mixtures

Description: Mixture of substances listed below with nonhazardous additions.

Dangerous components:

55965-84-9	mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2Hiso-thiazol-3-one [EC no. 220-239-6] (3:1) mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-4-isothiazolin-3-one [EC no. 220-239-6] (3:1)  T R23/24/25;  C R34;  Xi R43;  N R50/53  Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331;  Skin Corr. 1B, H314;  Aquatic Acute 1, H400; Aquatic Chronic 1, H410;  Skin Sens. 1, H317
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Additional information: For the wording of the listed risk phrases refer to section 16.

GB

(Contd. on page 3)

Safety data sheet according to 453/2010/EC

Printing date 18.05.2015

Version number 1

Revision: 20.09.2010

Trade name: HFA 76

(Contd. of page 2)

SECTION 4: First aid measures

· 4.1 Description of first aid measures

· **General information:** Immediately remove any clothing soiled by the product.

· **After inhalation:**

Supply fresh air and to be sure call for a doctor.

In case of unconsciousness place patient stably in side position for transportation.

· **After skin contact:**

Immediate medical treatment necessary. Failure to treat burns can prevent wounds from healing.

Immediately wash with water and soap and rinse thoroughly.

· **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.

· **After swallowing:**

Drink plenty of water and provide fresh air. Call for a doctor immediately.

Do not induce vomiting; call for medical help immediately.

A person vomiting while laying on their back should be turned onto their side.

· 4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

· 4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

SECTION 5: Firefighting measures

· 5.1 Extinguishing media

· **Suitable extinguishing agents:**

CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· 5.2 Special hazards arising from the substance or mixture

Under certain fire conditions, traces of other toxic gases cannot be excluded.

Nitrogen oxides (NO_x)

Sulphur dioxide (SO₂)

Hydrogen chloride (HCl)

Carbon monoxide (CO)

· 5.3 Advice for firefighters

· **Protective equipment:** Wear self-contained respiratory protective device.

· **Additional information**

Collect contaminated fire fighting water separately. It must not enter the sewage system.

SECTION 6: Accidental release measures

· 6.1 Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

· 6.2 Environmental precautions:

Inform respective authorities in case of seepage into water course or sewage system.

Do not allow to enter sewers/ surface or ground water.

· 6.3 Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Use neutralising agent.

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

· 6.4 Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

GB

(Contd. on page 4)

Trade name: HFA 76

(Contd. of page 3)

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

· **Information about fire - and explosion protection:** No special measures required.

7.2 Conditions for safe storage, including any incompatibilities

· **Storage:**

· **Requirements to be met by storerooms and receptacles:** No special requirements.

· **Information about storage in one common storage facility:** Not required.

· **Further information about storage conditions:** Keep container tightly sealed.

· **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· **Additional information about design of technical facilities:** No further data; see item 7.

8.1 Control parameters

· **Ingredients with limit values that require monitoring at the workplace:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

· **Additional information:** The lists valid during the making were used as basis.

8.2 Exposure controls

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

· **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Nitrile rubber, NBR

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

(Contd. on page 5)

Trade name: HFA 76

(Contd. of page 4)

- **Body protection:**
Use protective suit.
Full head, face and neck protection

SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· General Information

· Appearance:

Form:	Fluid
Colour:	Colourless to lichtyellow
Odour:	Mild
	Mild

· Change in condition

Boiling point/Boiling range: 228 °C

· **Flash point:** 121 °C

· **Ignition temperature:** 310 °C

· **Self-igniting:** Product is not selfigniting.

· **Danger of explosion:** Product does not present an explosion hazard.

· Explosion limits:

Lower:	2.9 Vol %
Upper:	12.6 Vol %

· **Density at 20 °C:** 1.04 - 1.06 g/cm³

· Solubility in / Miscibility with water:

Not miscible or difficult to mix.

· **9.2 Other information** No further relevant information available.

SECTION 10: Stability and reactivity

· 10.1 Reactivity

· 10.2 Chemical stability

· Thermal decomposition / conditions to be avoided:

No decomposition if used according to specifications.

· **10.3 Possibility of hazardous reactions** No dangerous reactions known.

· **10.4 Conditions to avoid** No further relevant information available.

· **10.5 Incompatible materials:** No further relevant information available.

· **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

· 11.1 Information on toxicological effects

· Acute toxicity:

· Primary irritant effect:

· **on the skin:** Caustic effect on skin and mucous membranes.

· **on the eye:** Strong caustic effect.

· **Sensitisation:** Sensitisation possible through skin contact.

(Contd. on page 6)

Trade name: HFA 76

(Contd. of page 5)

· **Additional toxicological information:**

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

Corrosive

Irritant

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

SECTION 12: Ecological information

· **12.1 Toxicity**

· **Aquatic toxicity:** No further relevant information available.

· **12.2 Persistence and degradability** No further relevant information available.

· **12.3 Bioaccumulative potential** No further relevant information available.

· **12.4 Mobility in soil** No further relevant information available.

· **Ecotoxicological effects:**

· **Remark:** Harmful to fish

· **Additional ecological information:**

· **General notes:**

Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water

Do not allow product to reach ground water, water course or sewage system.

Must not reach sewage water or drainage ditch undiluted or unneutralised.

Danger to drinking water if even small quantities leak into the ground.

Harmful to aquatic organisms

· **12.5 Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**

· **Recommendation**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packaging:**

· **Recommendation:** Disposal must be made according to official regulations.

SECTION 14: Transport information

· **14.1 UN-Number**

· **ADR, IMDG, IATA**

1760

· **14.2 UN proper shipping name**

· **ADR**

1760 CORROSIVE LIQUID, N.O.S. (mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC no. 220-239-6] (3:1) mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-m)

· **IMDG, IATA**

CORROSIVE LIQUID, N.O.S. (mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC no. 220-239-6] (3:1) mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-m)

(Contd. on page 7)

Trade name: HFA 76

(Contd. of page 6)

· **14.3 Transport hazard class(es)**

· **ADR, IMDG, IATA**



· **Class** 8 Corrosive substances.
· **Label** 8

· **14.4 Packing group**

· **ADR, IMDG, IATA** III

· **14.5 Environmental hazards:**

· **Marine pollutant:** No

· **14.6 Special precautions for user**

Warning: Corrosive substances.

· **Danger code (Kemler):** 80

· **EMS Number:** F-A,S-B

· **14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable.

· **Transport/Additional information:**

· **ADR**

· **Limited quantities (LQ)** LQ22

· **Transport category** 2

· **Tunnel restriction code** E

· **UN "Model Regulation":** UN1760, CORROSIVE LIQUID, N.O.S., 8, III

SECTION 15: Regulatory information

· **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

No further relevant information available.

· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant phrases**

H301 Toxic if swallowed.
H311 Toxic in contact with skin.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H331 Toxic if inhaled.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.

R23/24/25 Toxic by inhalation, in contact with skin and if swallowed.

R34 Causes burns.

R43 May cause sensitisation by skin contact.

R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

· **Department issuing MSDS:** Product safety department

(Contd. on page 8)



Safety data sheet
according to 453/2010/EC

Printing date 18.05.2015

Version number 1

Revision: 20.09.2010

Trade name: HFA 76

(Contd. of page 7)

Contact: Mr. G.C. Spruijt**Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

Acute Tox. 3: Acute toxicity, Hazard Category 3

Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B

Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1

Skin Sens. 1: Sensitisation - Skin, Hazard Category 1

Aquatic Acute 1: Hazardous to the aquatic environment - Acute Hazard, Category 1

Aquatic Chronic 1: Hazardous to the aquatic environment - Chronic Hazard, Category 1

Aquatic Chronic 3: Hazardous to the aquatic environment - Chronic Hazard, Category 3

GB

1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
- **Trade name:** **HFA 84**
- **Relevant identified uses of the substance or mixture and uses advised against** Dye
- **Sector of Use** SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites
- **Product category** PC13 Fuels
- **Application of the substance / the mixture** Additive
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
WRT B.V.
Strawinskylaan 3067
1077ZX Amsterdam
The Netherlands
Tel.: 00-31-(0)20-644 2831
Fax.: 00-31-(0)20-642 3962
info@wrtbv.com
- **Further information obtainable from:**
Product Safety Department
Tel.: 00-31-(0)-644 2831
info@wrtbv.com
Support is only given in the following languages: Dutch, English and German
- **Emergency telephone number:**
Product Safety department
In case of a spill or accident, you can contact us at:
Tel.: 00-31-(0)20-644 2831
During office hours we can be contacted for general information at
Tel.: 00-31-(0)20-6442831
Support is only given in the following languages: Dutch, English, and German

2 Hazards identification

- **Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS08 health hazard

Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC** Not applicable.
- **Information concerning particular hazards for human and environment:**
The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.
- **Classification system:**
The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

- **Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms**



GHS08

- **Signal word** Danger

(Contd. on page 2)

GB

Trade name: HFA 84

(Contd. of page 1)

· **Hazard-determining components of labelling:**

Solvent naphtha (petroleum), heavy arom.

· **Hazard statements**

H304 May be fatal if swallowed and enters airways.

· **Precautionary statements**

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P103 Read label before use.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

P331 Do NOT induce vomiting.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.· **vPvB:** Not applicable.

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

· **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**

CAS: 64742-94-5 EINECS: 265-198-5 Reg.nr.: 01-2119463583-34	Solvent naphtha (petroleum), heavy arom. Xn R65 Asp. Tox. 1, H304	55%
CAS: 2475-44-7 EINECS: 219-602-1 Reg.nr.: Pre-registered	C.I. Solvent Blue 79 Dye	35%
CAS: 68227-28-1 EINECS: 269-342-8 Reg.nr.: Pre-registered	C.I. Solvent Blue 79 Dye	
CAS: 75476-94-7 EINECS: 278-219-8 Reg.nr.: Pre-registered	C.I. Solvent Blue 79 Dye	
CAS: 17354-14-2 EINECS: 241-379-4 Reg.nr.: Pre-registered	C.I. Solvent Blue 79 Dye	
CAS: 85455-53-4 EINECS: 287-289-9 Reg.nr.: Pre-registered	C.I. Solvent Blue 79 Dye	
CAS: 29887-08-9 EINECS: 249-931-6 Reg.nr.: Pre-registered	C.I. Solvent Blue 79 Dye	
CAS: 65087-00-5 EINECS: 265-390-9	C.I. Solvent Yellow Dyes	10%
CAS: 68310-04-3 EINECS: 269-692-1	C.I. Solvent Yellow Dyes	
CAS: 29190-28-1 EINECS: 249-495-7	C.I. Solvent Yellow Dyes	

· **Additional information:** For the wording of the listed risk phrases refer to section 16.

GB

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4 First aid measures

- **Description of first aid measures**

- **After inhalation:**

In event of over-exposure remove individual to fresh air, taking steps necessary to protect the rescuer. If unconscious but breathing, place in a recovery position. If breathing stops, administer artificial respiration.

- **After skin contact:**

Remove contaminated clothing as soon as possible; this will be a fire hazard. Wash exposed skin thoroughly with soap and water. If irritation persists, consult a physician. Launder contaminated clothing before re-use. Badly contaminated leather shoes or clothing be discarded.

- **After eye contact:**

Check for and remove any contact lenses
Immediately wash with fresh water for at least 15 minutes.

- **After swallowing:**

If this material is swallowed DO NOT INDUCE VOMITING. If vomiting begins, lower victim's head in an effort to prevent vomit from entering the lungs. IMMEDIATELY SEEK MEDICAL ASSISTANCE. If victim is unconscious do not attempt to administer fluids, place in recovery position and protect airway.

- **Information for doctor:**

- **Most important symptoms and effects, both acute and delayed**

No further relevant information available.

- **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

5 Firefighting measures

- **Extinguishing media**

- **Suitable extinguishing agents:**

CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

- **For safety reasons unsuitable extinguishing agents:** Water with full jet

- **Special hazards arising from the substance or mixture**

No further relevant information available.

- **Advice for firefighters**

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from the fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

- **Protective equipment:**

Wear impervious clothing and self contained breathing apparatus. Use water to keep fire-exposed containers cool. If a leak or spill has not ignited use water spray to disperse the vapours and to provide protection for personnel attempting to stop a leak. Take care not to spread the fire with water. Contain fire-fighting water to prevent ingress to watercourses as it will cause oil pollution.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation
Keep away from ignition sources.
Wear protective clothing.

- **Environmental precautions:**

Do not allow to enter sewers/ surface or ground water.
Inform respective authorities in case of seepage into water course or sewage system.

- **Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

- **Reference to other sections**

See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.

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See Section 13 for disposal information.

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7 Handling and storage

- **Handling:**
- **Precautions for safe handling** Ensure good ventilation/exhaustion at the workplace.
- **Information about fire - and explosion protection:** Keep ignition sources away - Do not smoke.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Store away from foodstuffs.
- **Further information about storage conditions:** Store receptacle in a well ventilated area.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists valid during the making were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:** Wash hands before breaks and at the end of work.
- **Respiratory protection:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
- **Protection of hands:**
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:** Goggles recommended during refilling
- **Body protection:** Protective work clothing

9 Physical and chemical properties

- **Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**
- **Form:** Liquid
- **Colour:** Green
- **Odour:** Aromatic

(Contd. on page 5)

Trade name: HFA 84

(Contd. of page 4)

· Odour threshold:	Not determined.
· pH-value:	Not determined.
· Change in condition Melting point/Melting range:	> - 20 °C
Boiling point/Boiling range:	185 - 215 °C
· Flash point:	> 61 °C
· Flammability (solid, gaseous):	Not applicable.
· Ignition temperature:	425 °C
· Decomposition temperature:	Not determined.
· Self-igniting:	Product is not selfigniting.
· Danger of explosion:	Product does not present an explosion hazard.
· Explosion limits: Lower:	0.7 Vol %
Upper:	6.0 Vol %
· Vapour pressure:	Not determined.
· Density at 15 °C:	0.98 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with water:	Not miscible or difficult to mix.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity: Dynamic at 20 °C:	30 mPas
Kinematic:	Not determined.
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid**
High temperature
Sources of ignition
Avoid the build-up of electrostatic charge
- **Incompatible materials:**
-acids
-alkalis
-oxidizing materials
-reducing materials
- **Hazardous decomposition products:**
Nitrogen oxides
Carbon monoxide

GB

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11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** Lightly irritating for the skin. Prolonged contact will cause irritation or burn
- **on the eye:** Strong irritant with the danger of severe eye injury.
- **Sensitization:** No sensitizing effects known.

12 Ecological information

- **Toxicity**
- LC50, 96 hrs, FISH mg/l 1-10
- EC50, 48 hrs, DAPHNIA, mg/l 1-10
- IC50, 72 hrs, ALGEA, mg/l 1-10
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
- **Bioaccumulative potential**
- Bioaccumulation is unlikely to be significant because of the low water solubility of this product.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
- Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
- Do not allow product to reach ground water, water course or sewage system.
- Danger to drinking water if even small quantities leak into the ground.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**
- Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- | | |
|----------------------------------|--|
| · UN-Number | |
| · ADR, IMDG, IATA | UN3082 |
| · UN proper shipping name | |
| · ADR | 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (NAPHTHALENE, CRUDE) |
| · IMDG | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (NAPHTHALENE, CRUDE), MARINE POLLUTANT |
| · IATA | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (NAPHTHALENE, CRUDE) |

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Trade name: HFA 84

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· **Transport hazard class(es)**

· **ADR, IMDG, IATA**



· **Class**

9 Miscellaneous dangerous substances and articles.

· **Label**

9

· **Packing group**

· **ADR, IMDG, IATA**

III

· **Environmental hazards:**

· **Marine pollutant:**

Yes

Symbol (fish and tree)

· **Special marking (ADR):**

Symbol (fish and tree)

· **Special marking (IATA):**

Symbol (fish and tree)

· **Special precautions for user**

Warning: Miscellaneous dangerous substances and articles.

· **Danger code (Kemler):**

90

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable.

· **Transport/Additional information:**

· **ADR**

· **Limited quantities (LQ)**

5L

· **Transport category**

3

· **Tunnel restriction code**

E

· **UN "Model Regulation":**

UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (NAPHTHALENE, CRUDE), 9, III

15 Regulatory information

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant phrases**

H304 May be fatal if swallowed and enters airways.

R65 Harmful: may cause lung damage if swallowed.

· **Department issuing MSDS:** Product safety department

· **Contact:** Mr. G.C. Spruijt

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name: **HFA 85**

1.2 Relevant identified uses of the substance or mixture and uses advised against
Euromarker

Sector of Use SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites

Product category PC13 Fuels

Application of the substance / the mixture Additive

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

WRT B.V.

Strawinskylaan 3067

1077ZX Amsterdam

The Netherlands

Tel.: 00-31-(0)20-644 2831

Fax.: 00-31-(0)20-642 3962

info@wrtbv.com

Further information obtainable from:

Product Safety Department

Tel.: 00-31-(0)-644 2831

info@wrtbv.com

Support is only given in the following languages: Dutch, English and German

1.4 Emergency telephone number:

Product Safety department

In case of a spill or accident, you can contact us at:

Tel.: 00-31-(0)20-644 2831

During office hours we can be contacted for general information at

Tel.: 00-31-(0)20-6442831

Support is only given in the following languages: Dutch, English, and German

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008



GHS08 health hazard

Muta. 2 H341 Suspected of causing genetic defects.

Carc. 2 H351 Suspected of causing cancer.

Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.



GHS07

Skin Sens. 1 H317 May cause an allergic skin reaction.

Aquatic Chronic 4 H413 May cause long lasting harmful effects to aquatic life.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC



Xn; Harmful

R40-68/20/21/22-65: Limited evidence of a carcinogenic effect. Harmful: possible risk of irreversible effects through inhalation, in contact with skin and if swallowed. Harmful: may cause lung damage if swallowed.



Xi; Sensitising

R43: May cause sensitisation by skin contact.

R53: May cause long-term adverse effects in the aquatic environment.

(Contd. on page 2)

Trade name: HFA 85

(Contd. of page 1)

Information concerning particular hazards for human and environment:

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

Classification system:

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the CLP regulation.

Hazard pictograms



GHS07 GHS08

Signal word Danger

Hazard-determining components of labelling:

Solvent naphtha (petroleum), heavy arom.

Azo dye, similar to

C.I. Solvent Red 19

C.I. Solvent Red 19

Hazard statements

H317 May cause an allergic skin reaction.

H341 Suspected of causing genetic defects.

H351 Suspected of causing cancer.

H304 May be fatal if swallowed and enters airways.

H413 May cause long lasting harmful effects to aquatic life.

Precautionary statements

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

P321 Specific treatment (see on this label).

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

3.2 Chemical characterisation: Mixtures

Description: Mixture of substances listed below with nonhazardous additions.

Dangerous components:

CAS: 64742-94-5 EINECS: 265-198-5 Reg.nr.: 01-2119463583-34	Solvent naphtha (petroleum), heavy arom. ☒ Xn R65 ☒ Asp. Tox. 1, H304	20 - 25%
CAS: 57712-94-4 EINECS: 260-913-7	Azo dye, similar to C.I. Solvent Red 19 ☒ Xn R40 ☒ Carc. 2, H351	15 - 20%
CAS: 56358-09-9 EINECS: 260-124-8 Reg.nr.: 01-2119974149-26	C.I. Solvent Red 19 ☒ Xn R40 ☒ Carc. 2, H351	15 - 20%

(Contd. on page 3)

Trade name: HFA 85

(Contd. of page 2)

CAS: 34432-92-3
EINECS: 252-021-1
Reg.nr.: 01-2119974150-43

C.I. Solvent Yellow 124

30 - 40%

· **Additional information:** For the wording of the listed risk phrases refer to section 16.

SECTION 4: First aid measures

· 4.1 Description of first aid measures

· **After inhalation:**

In event of over-exposure remove individual to fresh air, taking steps necessary to protect the rescuer. If unconscious but breathing, place in a recovery position. If breathing stops, administer artificial respiration.

· **After skin contact:**

Remove contaminated clothing as soon as possible; this will be a fire hazard. Wash exposed skin thoroughly with soap and water. If irritation persists, consult a physician. Launder contaminated clothing before re-use. Badly contaminated leather shoes or clothing can be discarded.

· **After eye contact:**

Immediately wash with fresh water for at least 15 minutes.

Check for and remove any contact lenses

· 4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

· 4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

SECTION 5: Firefighting measures

· 5.1 Extinguishing media

· **Suitable extinguishing agents:**

CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· **For safety reasons unsuitable extinguishing agents:** Water with full jet

· 5.2 Special hazards arising from the substance or mixture

In case of fire, the following can be released:

Carbon monoxide (CO)

Carbon dioxide (CO₂)

· 5.3 Advice for firefighters

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from the fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

SECTION 6: Accidental release measures

· 6.1 Personal precautions, protective equipment and emergency procedures

Avoid contact with spilled material. Do not touch or walk through spilled material.

· 6.2 Environmental precautions: Do not allow to enter sewers/ surface or ground water.

· 6.3 Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

· 6.4 Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

SECTION 7: Handling and storage

· 7.1 Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

(Contd. on page 4)

Trade name: HFA 85

(Contd. of page 3)

- Prevent formation of aerosols.
- **Information about fire - and explosion protection:** No special measures required.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Store only in the original receptacle.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Store receptacle in a well ventilated area.
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **8.1 Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists valid during the making were used as basis.
- **8.2 Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Wash hands before breaks and at the end of work.
- **Respiratory protection:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **For the permanent contact gloves made of the following materials are suitable:**
Nitrile rubber, NBR
PVC gloves
- **Eye protection:** Goggles recommended during refilling
- **Body protection:** Protective work clothing

GB

(Contd. on page 5)

Safety data sheet according to 453/2010/EC

Printing date 23.02.2015

Version number 4

Revision: 28.01.2015

Trade name: HFA 85

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SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· General Information

· Appearance:

Form:	Liquid
Colour:	Red
Odour:	Petroleum hydrocarbon odour
Odour threshold:	Not determined.

· pH-value: Not applicable.

· Change in condition

Melting point/Melting range:	minus 12 °C
Boiling point/Boiling range:	215 °C

· Flash point: > 61 °C

· Flammability (solid, gaseous): Not applicable.

· Ignition temperature:

Decomposition temperature: Not determined.

· Self-igniting: Product is not selfigniting.

· Danger of explosion: Product does not present an explosion hazard.

· Explosion limits:

Lower:	Not determined.
Upper:	Not determined.

· Vapour pressure: Not determined.

· Density at 15 °C: 0.98 - 1.05 g/cm³

· Relative density: Not determined.

· Vapour density: Not determined.

· Evaporation rate: Not determined.

· Solubility in / Miscibility with water:

Not miscible or difficult to mix.

· Partition coefficient (n-octanol/water): Not determined.

· Viscosity:

Dynamic: Not determined.

Kinematic: Not determined.

· 9.2 Other information: No further relevant information available.

SECTION 10: Stability and reactivity

· 10.1 Reactivity

· 10.2 Chemical stability: Stable under normal conditions

· Thermal decomposition / conditions to be avoided:

No decomposition if used according to specifications.

· 10.3 Possibility of hazardous reactions: No dangerous reactions known.

· 10.4 Conditions to avoid

High temperature

Sources of ignition

Avoid the build-up of electrostatic charge

Do not heat above flash point. Avoid naked flames and sparks.

(Contd. on page 6)

Trade name: HFA 85

(Contd. of page 5)

- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:**
Nitrogen oxides
Carbon monoxide
Carbon dioxide

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity:**
- **LD/LC50 values relevant for classification:**

Oral	LD50	> 6100 mg/kg (rat)
------	------	--------------------
- **Primary irritant effect:**
- **on the skin:** Lightly irritating for the skin. Prolonged contact will cause irritation or burn
- **on the eye:** Vapour may irritate the eyes. Liquid is irritating and potentially damaging to the eyes.
- **Sensitisation:** No sensitising effects known.
- **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
- **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**
Muta. 2, Carc. 2

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** May be accumulated in organism
- **12.4 Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
The generation of waste should be avoided or minimised wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapour from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of split material and runoff and contact with soil, waterways, drains and sewers.

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Trade name: HFA 85

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· **Uncleaned packaging:**

· **Recommendation:**

Disposal must be made according to official regulations.

This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have been cleaned or rinsed out. Emptied containers or liners may retain some product residues. Vapour from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of split material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

· **14.1 UN-Number**

· **ADR, IMDG, IATA**

UN3082

· **14.2 UN proper shipping name**

· **ADR**

3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

· **IMDG, IATA**

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Solvent naphtha (petroleum), heavy arom.)

· **14.3 Transport hazard class(es)**

· **ADR**



· **Class**

9 Miscellaneous dangerous substances and articles.

· **Label**

9

· **IMDG**



· **Class**

9 Miscellaneous dangerous substances and articles.

· **Label**

9

· **IATA**



· **Class**

9 Miscellaneous dangerous substances and articles.

· **14.4 Packing group**

· **ADR, IMDG, IATA**

III

· **14.5 Environmental hazards:**

· **Marine pollutant:**

Yes

· **Special marking (ADR):**

Symbol (fish and tree)

· **Special marking (IATA):**

Symbol (fish and tree)

· **14.6 Special precautions for user**

Warning: Miscellaneous dangerous substances and articles.

(Contd. on page 8)

Trade name: HFA 85

(Contd. of page 7)

· Danger code (Kemler):	90
· 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	5L
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· Transport category	3
· Tunnel restriction code	E
· IMDG	
· Limited quantities (LQ)	5L
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· UN "Model Regulation":	UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., 9, III

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
No further relevant information available.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant phrases**
H304 May be fatal if swallowed and enters airways.
H351 Suspected of causing cancer.
- **R40** Limited evidence of a carcinogenic effect.
- **R65** Harmful: may cause lung damage if swallowed.
- **Department issuing MSDS:** Product safety department
- **Contact:** Mr. G.C. Spruijt
- **Abbreviations and acronyms:**
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
Skin Sens. 1: Sensitisation - Skin, Hazard Category 1
Muta. 2: Germ cell mutagenicity, Hazard Category 2
Carc. 2: Carcinogenicity, Hazard Category 2
Asp. Tox. 1: Aspiration hazard, Hazard Category 1
Aquatic Chronic 4: Hazardous to the aquatic environment - Chronic Hazard, Category 4
- *** Data compared to the previous version altered.** Updated format

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name: **HFA 95**

1.2 Relevant identified uses of the substance or mixture and uses advised against

Dye

Sector of Use

SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites
Oil Industry

Product category PC13 Fuels

Application of the substance / the mixture Additive

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

WRT B.V.
Strawinskylaan 3067
1077ZX Amsterdam
The Netherlands
Tel.: 00-31-(0)20-644 2831
Fax.: 00-31-(0)20-642 3962
info@wrtbv.com

Further information obtainable from:

Product Safety Department
Tel.: 00-31-(0)-644 2831
info@wrtbv.com
Support is only given in the following languages: Dutch, English and German

1.4 Emergency telephone number:

Product Safety department
In case of a spill or accident, you can contact us at:
Tel.: 00-31-(0)20-644 2831
During office hours we can be contacted for general information at
Tel.: 00-31-(0)20-6442831
Support is only given in the following languages: Dutch, English, and German

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008



GHS08 health hazard

Carc. 2 H351 Suspected of causing cancer.
STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.



GHS09 environment

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.
STOT SE 3 H336 May cause drowsiness or dizziness.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC



Xn; Harmful

R40: Limited evidence of a carcinogenic effect.

Trade name: HFA 95

(Contd. of page 1)



N; Dangerous for the environment

R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Information concerning particular hazards for human and environment:

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

Classification system:

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

2.2 Label elements
Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the CLP regulation.

Hazard pictograms


GHS07



GHS08



GHS09

Signal word Warning

Hazard-determining components of labelling:

C.I. Solvent Red 19

Azo dye, similar to

C.I. Solvent Red 19

Hazard statements

H315 Causes skin irritation.

H351 Suspected of causing cancer.

H336 May cause drowsiness or dizziness.

H373 May cause damage to organs through prolonged or repeated exposure.

H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P281 Use personal protective equipment as required.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Additional information:

EUH066 Repeated exposure may cause skin dryness or cracking.



2.3 Other hazards
Results of PBT and vPvB assessment
PBT: Not applicable.

vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

3.2 Chemical characterization: Mixtures
Description: Mixture of substances listed below with nonhazardous additions.

Dangerous components:

CAS: 64742-94-5	Solvent naphtha (petroleum), heavy arom.	40 - 45%
EINECS: 265-198-5	 Xn R65	
Reg.nr.: 01-2119463583-34	 Asp. Tox. 1, H304	

(Contd. on page 3)

Trade name: HFA 95

(Contd. of page 2)

CAS: 56358-09-9 EINECS: 260-124-8 Reg.nr.: 01-2119974149-26	C.I. Solvent Red 19 Xn R40 Carc. 2, H351	55 - 60%
CAS: 57712-94-4 EINECS: 260-913-7	Azo dye, similar to C.I. Solvent Red 19 Xn R40 Carc. 2, H351	55 - 60%

· **Additional information:** For the wording of the listed risk phrases refer to section 16.

SECTION 4: First aid measures

· 4.1 Description of first aid measures

· After inhalation:

In event of over-exposure remove individual to fresh air, taking steps necessary to protect the rescuer. If unconscious but breathing, place in a recovery position. If breathing stops, administer artificial respiration.

· After skin contact:

Remove contaminated clothing as soon as possible; this will be a fire hazard. Wash exposed skin thoroughly with soap and water. If irritation persists, consult a physician. Launder contaminated clothing before re-use. Badly contaminated leather shoes or clothing be discarded.

Seek medical treatment.

· After eye contact:

Immediately wash with fresh water for at least 15 minutes.

Seek immediate medical advice.

· After swallowing: Do not induce vomiting; call for medical help immediately.

· 4.2 Most important symptoms and effects, both acute and delayed

Headache, dizziness, drowsiness, nausea and other Central Nervous System effects.

· 4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

SECTION 5: Firefighting measures

· 5.1 Extinguishing media

· Suitable extinguishing agents:

CO2. Do not use water.

Foam

Fire-extinguishing powder

· For safety reasons unsuitable extinguishing agents: Water with full jet

· 5.2 Special hazards arising from the substance or mixture

In case of fire, the following can be released:

Carbon monoxide (CO)

Carbon dioxide (CO2)

· 5.3 Advice for firefighters

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from the fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

· Protective equipment:

Wear impervious clothing and self contained breathing apparatus. Use water to keep fire-exposed containers cool. If a leak or spill has not ignited use water spray to disperse the vapours and to provide protection for personnel attempting to stop a leak. Take care not to spread the fire with water. Contain fire-fighting water to prevent ingress to watercourses as it will cause oil pollution.

· Additional information

Products of combustion may contain carbon monoxide, carbon dioxide and other toxic materials. Do not enter enclosed or confined space without proper protective equipment including respiratory protection. Solvent vapours are an explosion hazard. Keep material away from sources of ignition. Closed containers may explode from vapour pressure increases when exposed to extreme heat. Vapours may travel great distances and ignite and flashback to source.

GB

(Contd. on page 4)

Trade name: HFA 95

(Contd. of page 3)

SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**

Keep away from ignition sources.

Ensure adequate ventilation

Avoid contact with spilled material. Do not touch or walk through spilled material.

Wear protective equipment. Keep unprotected persons away.

· **6.2 Environmental precautions:**

Inform respective authorities in case of seepage into water course or sewage system.

Do not allow to enter sewers/ surface or ground water.

Dyke far ahead of liquid spill for later recovery and disposal.

· **6.3 Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

· **6.4 Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**

Avoid breathing mists or vapour. Handle in a well-ventilated area or provide efficient exhaust ventilation. Potentially toxic/irritating fumes/vapours may be evolved from heated or agitated material. Wear long sleeved, chemical resistant gloves, and also safety glasses if there is risk of splashing. Avoid prolonged contact with the skin. Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). When the material is handled in bulk, an electrical spark could ignite any flammable vapours from liquids or residues that may be present (e.g., during switch-loading operations). Use proper bonding and/or earthing procedures. However, bonding and earthing may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance.

Static Accumulator: This material is a static accumulator. A liquid is typically considered a nonconductive, static accumulator if its conductivity is below 100 pS/m (100x10E-12 Siemens per meter) and is considered a semiconductive, static accumulator if its conductivity is below 10,000 pS/m. Whether a liquid is nonconductive or semiconductive, the precautions are the same. A number of factors, for example liquid temperature, presence of contaminants, anti-static additives and filtration can greatly influence the conductivity of a liquid.

· **Information about fire - and explosion protection:** No special measures required.

· **7.2 Conditions for safe storage, including any incompatibilities**

· **Storage:**

· **Requirements to be met by storerooms and receptacles:**

Store in a cool location.

Unsuitable material for receptacle: Butyl Rubber; Natural Rubber; Ethylene-propylene-diene monomer (EPDM); Polystyrene; Polyethylene; Polypropylene; Polyacrylonitrile

Suitable material for receptacles and pipes: Carbon Steel; Stainless Steel; Polyester; Teflon; Polyvinyl Alcohol (PVA)

· **Information about storage in one common storage facility:** Not required.

· **Further information about storage conditions:** None.

· **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· **Additional information about design of technical facilities:** No further data; see item 7.

· **8.1 Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

· **Additional information:** The lists valid during the making were used as basis.

(Contd. on page 5)

Trade name: HFA 95

(Contd. of page 4)

· **8.2 Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.
Wash hands before breaks and at the end of work.
Avoid contact with the skin.

· **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

Short term filter device:

Filter A/P2

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **For the permanent contact in work areas without heightened risk of injury (e.g. Laboratory) gloves made of the following material are suitable:**

Nitrile rubber, NBR

· **For the permanent contact gloves made of the following materials are suitable:**

Nitrile rubber, NBR

· **Eye protection:** Goggles recommended during refilling

· **Body protection:** Protective work clothing

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form:

Liquid

Colour:

Dark red

· **Odour:**

Petroleum hydrocarbon odour

· **Odour threshold:**

Not determined.

· **pH-value:**

Not applicable.

· **Change in condition**

Boiling point/Boiling range:

185 - 215 °C

Solidification point:

< - 30 °C

· **Flash point:**

70 °C

· **Flammability (solid, gaseous):**

Not applicable.

· **Ignition temperature:**

>425 °C

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Trade name: HFA 95

(Contd. of page 5)

· Decomposition temperature:	Not applicable
· Self-igniting:	Product is not selfigniting.
· Danger of explosion:	Product does not present an explosion hazard.
· Explosion limits:	
Lower:	0.5 Vol %
Upper:	6.0 Vol %
· Vapour pressure:	Not determined.
· Density at 15 °C:	1.02 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with water:	Insoluble.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic at 20 °C:	200 mm ² /s
· 9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity**
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** Do not heat above flas point. Avoid naked flames and sparks.
- **10.5 Incompatible materials:** Strong oxidizing agents
- **10.6 Hazardous decomposition products:** Carbon monoxide

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**

- **Acute toxicity:**

- **LD/LC50 values relevant for classification:**

57712-94-4 Azo dye, simililar to
C.I. Solvent Red 19

Oral LD50 > 7500 mg/kg (rat)

- **Primary irritant effect:**

- **on the skin:** No irritant effect.

- **on the eye:** Irritating effect.

- **Sensitization:** No sensitizing effects known.

- **Additional toxicological information:**

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

- **Acute effects (acute toxicity, irritation and corrosivity)**

COMPONENTS : Hydrocarbons, C10, Aromatics, >1% Naphthalene

Hydrocarbons, C10 - C13, Aromatics, >1% Naphthalene

Toxicological data: LD₅₀ (Oral) Rat - > 5000 mg/kg - Low acute toxicity by the oral route

(Contd. on page 7)

Trade name: HFA 95

(Contd. of page 6)

LD₅₀ (Skin) Rabbit - > 2000 mg/kg - Low acute toxicity by the dermal route
LC₅₀ 4 hours. Inhalation Rat - > 4500 mg/m³ - Low acute toxicity by the inhalation route

COMPONENTS : Hydrocarbons, C10, Aromatics, >1% Naphthalene
Hydrocarbons, C10 - C13, Aromatics, >1% Naphthalene

Toxicological data: LD₅₀ (Oral) Rat - > 5000 mg/kg
LD₅₀ (Skin) Rabbit - > 2000 mg/kg
LC₅₀ 4 hours. Inhalation Rat - > 4500 mg/m³

COMPONENTS : Solvent Red Dyes
Toxicological data: LD₅₀ (Oral) Rat - >2000 mg/kg
LD₅₀ (Dermal) Rat - >2000 mg/kg

· **Sensitisation** Skin. Guinea Pig. Negative

· **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**

Reproductive toxicity: three generation study: NOAEC 7800 mg/m³ Inhalation. Rat. Not expected to be a reproductive toxicant

Maternal toxicity: NOAEL 150 mg/kg Oral Rat. Not developmental toxicants

Carc. 2

Carcinogenicity: COMPONENTS: Hydrocarbons, C10, Aromatics, >1% Naphtalene:
NOAEL 600 mg/kg Oral Rat
1800 mg/m³ inhalation Rat Suspected of causing cancer

COMPONENTS: Solvent Red Dyes:
No Data Available

Reproductive Toxicity: COMPONENTS: Hydrocarbons, C10, Aromatics, >1% Naphtalene

Three-generation study: NOAEC 7800 mg/m³ Inhalation Rat

Not expected to be a reproductive toxicant

Maternal toxicity: NOAEL 150 mg/kg Oral Rat

Not developmental toxicants

COMPONENTS: Solvent Red Dyes

The NOAEL for the REPRODUCTION and DEVELOPMENT 160 mg/kg body weight/day.

SECTION 12: Ecological information

· 12.1 Toxicity

· **Aquatic toxicity:** No further relevant information available.

· **12.2 Persistence and degradability** Easily biodegradable

· **12.3 Bioaccumulative potential** Not worth-mentioning accumulating in organisms

· **12.4 Mobility in soil** No further relevant information available.

· **Ecotoxic effects:**

· **Remark:** Toxic for fish

· **Additional ecological information:**

· **General notes:**

Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into the ground.

Also poisonous for fish and plankton in water bodies.

Toxic for aquatic organisms

· **12.5 Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

· 13.1 Waste treatment methods

· **Recommendation**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

The generation of waste should be avoided or minimised wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental

(Contd. on page 8)

Trade name: HFA 95

(Contd. of page 7)

protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of split material and runoff and contact with soil, waterways, drains and sewers.

· **Uncleaned packaging:**

· **Recommendation:** Disposal must be made according to official regulations.

SECTION 14: Transport information

· **14.1 UN-Number**

· **ADR, IMDG, IATA** UN3082

· **14.2 UN proper shipping name**

· **ADR** 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

· **IMDG** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Solvent naphtha (petroleum), heavy arom.), MARINE POLLUTANT

· **IATA** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Solvent naphtha (petroleum), heavy arom.)

· **14.3 Transport hazard class(es)**

· **ADR, IMDG, IATA**



· **Class** 9 Miscellaneous dangerous substances and articles.

· **Label** 9

· **14.4 Packing group**

· **ADR, IMDG, IATA** III

· **14.5 Environmental hazards:**

· **Marine pollutant:** Yes
Symbol (fish and tree)

· **Special marking (ADR):** Symbol (fish and tree)

· **Special marking (IATA):** Symbol (fish and tree)

· **14.6 Special precautions for user**

Warning: Miscellaneous dangerous substances and articles.

· **Danger code (Kemler):** 90

· **EMS Number:** F-A,S-F

· **14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable.

· **Transport/Additional information:**

· **ADR**

· **Limited quantities (LQ)** 5L

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Safety data sheet according to 453/2010/EC

Printing date 11.08.2014

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Trade name: HFA 95

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· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· IMDG	
· Limited quantities (LQ)	5L
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· UN "Model Regulation":	UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., 9, III

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
No further relevant information available.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant phrases**

H304 May be fatal if swallowed and enters airways.

H351 Suspected of causing cancer.

R40 Limited evidence of a carcinogenic effect.

R65 Harmful: may cause lung damage if swallowed.

- **Department issuing MSDS:** Product safety department

- **Contact:** Mr. G.C. Spruijt

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

Carc. 2: Carcinogenicity, Hazard Category 2

STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

STOT RE 2: Specific target organ toxicity - Repeated exposure, Hazard Category 2

Asp. Tox. 1: Aspiration hazard, Hazard Category 1

Aquatic Chronic 2: Hazardous to the aquatic environment - Chronic Hazard, Category 2

GB

1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
- **Trade name:** **HFA 1021**
- **Relevant identified uses of the substance or mixture and uses advised against**
- **Sector of Use** Oil Industry
- **Application of the substance / the preparation** Dehazer
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
WRT B.V.
Strawinskylaan 3067
1077ZX Amsterdam
The Netherlands
Tel.: 00-31-(0)20-644 2831
Fax.: 00-31-(0)20-642 3962
info@wrtbv.com
- **Further information obtainable from:**
Product Safety Department
Tel.: 00-31-(0)-644 2831
info@wrtbv.com
Support is only given in the following languages: Dutch, English and German
- **Emergency telephone number:**
Product Safety department
In case of a spill or accident, you can contact us at:
Tel.: 00-31-(0)20-644 2831
During office hours we can be contacted for general information at
Tel.: 00-31-(0)20-6442831
Support is only given in the following languages: Dutch, English, and German

2 Hazards identification

- **Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS02 flame

Flam. Liq. 3 H226 Flammable liquid and vapour.



GHS08 health hazard

Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.
 Eye Irrit. 2 H319 Causes serious eye irritation.
 STOT SE 3 H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.
 Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



Xn; Harmful

R65: Harmful: may cause lung damage if swallowed.



Xi; Irritant

(Contd. on page 2)

Trade name: HFA 1021

(Contd. of page 1)

R36/37/38: Irritating to eyes, respiratory system and skin.

R10-52/53-67: Flammable. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Vapours may cause drowsiness and dizziness.

· **Information concerning particular hazards for human and environment:**

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

· **Classification system:**

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

· **Label elements**

· **Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the CLP regulation.

· **Hazard pictograms**



GHS02 GHS07 GHS08

· **Signal word** Danger

· **Hazard-determining components of labelling:**

Hydrocarbons, C9, aromatics

· **Hazard statements**

H226 Flammable liquid and vapour.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.

H304 May be fatal if swallowed and enters airways.

H412 Harmful to aquatic life with long lasting effects.

· **Precautionary statements**

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P103 Read label before use.

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

· **Description:** Mixture of substances listed below with nonhazardous additions.

(Contd. on page 3)

Trade name: HFA 1021

(Contd. of page 2)

· Dangerous components:

CAS: 37205-87-1	Isononylphenol, ethoxylated ❌ Xi R36/38 ⚠ Skin Irrit. 2, H315; Eye Irrit. 2, H319	60 - 80%
CAS: 9186-68-5 EC number: 918-668-5	Hydrocarbons, C9, aromatics ❌ Xn R65; ❌ Xi R37; ⚠ N R51/53 R10-66-67 ⚠ Flam. Liq. 3, H226; ⚠ Asp. Tox. 1, H304; ⚠ Aquatic Chronic 2, H411; ⚠ STOT SE 3, H335-H336	10 - 25%

· Additional information: For the wording of the listed risk phrases refer to section 16.**4 First aid measures****· Description of first aid measures****· After inhalation:** In case of unconsciousness place patient stably in side position for transportation.**· After skin contact:** Immediately wash with water and soap and rinse thoroughly.**· After eye contact:**

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

· After swallowing: If symptoms persist consult doctor.**· Information for doctor:****· Most important symptoms and effects, both acute and delayed**

No further relevant information available.

· Indication of any immediate medical attention and special treatment needed

No further relevant information available.

5 Firefighting measures**· Extinguishing media****· Suitable extinguishing agents:** CO₂, sand, extinguishing powder. Do not use water.**· For safety reasons unsuitable extinguishing agents:** Water with full jet**· Special hazards arising from the substance or mixture**

No further relevant information available.

· Advice for firefighters

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from the fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

· Protective equipment: No special measures required.**6 Accidental release measures****· Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

· Environmental precautions:

Do not allow product to reach sewage system or any water course.

Inform respective authorities in case of seepage into water course or sewage system.

Do not allow to enter sewers/ surface or ground water.

· Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Do not flush with water or aqueous cleansing agents

· Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

(Contd. on page 4)

Trade name: HFA 1021

See Section 13 for disposal information.

(Contd. of page 3)

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
- **Information about fire - and explosion protection:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep container tightly sealed.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists valid during the making were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
- **Respiratory protection:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

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· Eye protection:

Tightly sealed goggles

9 Physical and chemical properties

· Information on basic physical and chemical properties**· General Information****· Appearance:**

Form:	Liquid
Colour:	Colourless
· Odour:	Aromatic
· Odour threshold:	Not determined.

· pH-value:	Not determined.
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· Change in condition

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	164 °C

· Flash point:	48 °C
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· Flammability (solid, gaseous):	Not applicable.
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· Ignition temperature:	440 °C
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· Decomposition temperature:	Not determined.
-------------------------------------	-----------------

· Self-igniting:	Product is not selfigniting.
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· Danger of explosion:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
-------------------------------	---

· Explosion limits:

Lower:	0.8 Vol %
Upper:	7.0 Vol %

· Vapour pressure at 20 °C:	5 hPa
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· Density at 20 °C:	1.029 g/cm ³
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· Relative density	Not determined.
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· Vapour density	Not determined.
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· Evaporation rate	Not determined.
---------------------------	-----------------

· Solubility in / Miscibility with water:

Not miscible or difficult to mix.

· Partition coefficient (n-octanol/water):	Not determined.
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· Viscosity:

Dynamic:	Not determined.
Kinematic:	Not determined.

· Other information	No further relevant information available.
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GB

(Contd. on page 6)

Trade name: HFA 1021

(Contd. of page 5)

10 Stability and reactivity

- **Reactivity**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

LD/LC50 values relevant for classification:		
37205-87-1 Isononylphenol, ethoxylated		
Oral	LD50	>2000 mg/kg (rat)
9186-68-5 Hydrocarbons, C9, aromatics		
Oral	LD50	> 3500 mg/kg (rat) (OECD TG 401)
Dermal	LD50	> 3000 mg/kg (rat) (OECD TG 402)
Inhalative	LC50/4 h	> 6000 mg/l (rat) (OECD TG 403)

- **Primary irritant effect:**

- **on the skin:** Irritant to skin and mucous membranes.

- **on the eye:** Irritating effect.

- **Sensitization:** No sensitizing effects known.

- **Additional toxicological information:**

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

Irritant

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Harmful to fish
- **Additional ecological information:**
- **General notes:**
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
Harmful to aquatic organisms
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

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· **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

· UN-Number	
· ADR, IMDG, IATA	UN1993
· UN proper shipping name	
· ADR	1993 FLAMMABLE LIQUID, N.O.S. (Hydrocarbons, C9, aromatics)
· IMDG, IATA	FLAMMABLE LIQUID, N.O.S. (Hydrocarbons, C9, aromatics)
· Transport hazard class(es)	
· ADR, IMDG, IATA	
	
· Class	3 Flammable liquids.
· Label	3
· Packing group	
· ADR, IMDG, IATA	III
· Environmental hazards:	
· Marine pollutant:	No
· Special precautions for user	Warning: Flammable liquids.
· Danger code (Kemler):	30
· EMS Number:	F-E, <u>S</u> -E
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	5L
· Transport category	3
· Tunnel restriction code	D/E
· UN "Model Regulation":	UN1993, FLAMMABLE LIQUID, N.O.S. (Hydrocarbons, C9, aromatics), 3, III

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Trade name: HFA 1021

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15 Regulatory information

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant phrases**

H226 Flammable liquid and vapour.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
H411 Toxic to aquatic life with long lasting effects.
.....
R10 Flammable.
R36/38 Irritating to eyes and skin.
R37 Irritating to respiratory system.
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R65 Harmful: may cause lung damage if swallowed.
R66 Repeated exposure may cause skin dryness or cracking.
R67 Vapours may cause drowsiness and dizziness.

- **Department issuing MSDS:** Product safety department

- **Contact:** Mr. G.C. Spruijt

- **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent

GB

1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
- **Trade name:** **HFA 1024**
- **Relevant identified uses of the substance or mixture and uses advised against**
- **Sector of Use** Oil Industry
- **Application of the substance / the preparation** Dehazer
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
WRT B.V.
Strawinskylaan 3067
1077ZX Amsterdam
The Netherlands
Tel.: 00-31-(0)20-644 2831
Fax.: 00-31-(0)20-642 3962
info@wrtbv.com
- **Further information obtainable from:**
Product Safety Department
Tel.: 00-31-(0)-644 2831
info@wrtbv.com
Support is only given in the following languages: Dutch, English and German
- **Emergency telephone number:**
Product Safety department
In case of a spill or accident, you can contact us at:
Tel.: 00-31-(0)20-644 2831
During office hours we can be contacted for general information at
Tel.: 00-31-(0)20-6442831
Support is only given in the following languages: Dutch, English, and German

2 Hazards identification

- **Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS02 flame

Flam. Liq. 3 H226 Flammable liquid and vapour.



GHS08 health hazard

Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.
 Eye Irrit. 2 H319 Causes serious eye irritation.
 STOT SE 3 H335+H336 May cause respiratory irritation. May cause drowsiness or dizziness.
 Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



Xn; Harmful

R65: Harmful: may cause lung damage if swallowed.



Xi; Irritant

R36/37/38: Irritating to eyes, respiratory system and skin.

(Contd. on page 2)

Trade name: HFA 1024

(Contd. of page 1)

R10-52/53-67: Flammable. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Vapours may cause drowsiness and dizziness.

· **Information concerning particular hazards for human and environment:**

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

· **Classification system:**

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

· **Label elements**

· **Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the CLP regulation.

· **Hazard pictograms**



GHS02 GHS07 GHS08

· **Signal word** Danger

· **Hazard-determining components of labelling:**

Hydrocarbons, C9, aromatics

· **Hazard statements**

H226 Flammable liquid and vapour.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335+H336 May cause respiratory irritation. May cause drowsiness or dizziness.

H304 May be fatal if swallowed and enters airways.

H412 Harmful to aquatic life with long lasting effects.

· **Precautionary statements**

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P103 Read label before use.

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

· **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**

CAS: 37205-87-1	Isononylphenol, ethoxylated	50 - 80%
	Xi R36/38	
	Skin Irrit. 2, H315; Eye Irrit. 2, H319	

(Contd. on page 3)




Trade name: HFA 1024

(Contd. of page 2)





CAS: 9186-68-5

EC number: 918-668-5

Hydrocarbons, C9, aromatics

 Xn R65;  Xi R37;  N R51/53

R10-66-67

 Flam. Liq. 3, H226;  Asp. Tox. 1, H304;  Aquatic Chronic 2, H411;  STOT SE 3, H335+H336

20 - 50%

· **Additional information:** For the wording of the listed risk phrases refer to section 16.

4 First aid measures

· **Description of first aid measures**

· **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.

· **After skin contact:** Immediately wash with water and soap and rinse thoroughly.

· **After eye contact:**

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

· **After swallowing:** If symptoms persist consult doctor.

· **Information for doctor:**

· **Most important symptoms and effects, both acute and delayed**

No further relevant information available.

· **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

5 Firefighting measures

· **Extinguishing media**

· **Suitable extinguishing agents:** CO₂, sand, extinguishing powder. Do not use water.

· **For safety reasons unsuitable extinguishing agents:** Water with full jet

· **Special hazards arising from the substance or mixture**

No further relevant information available.

· **Advice for firefighters**

· **Protective equipment:** No special measures required.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

· **Environmental precautions:**

Do not allow product to reach sewage system or any water course.

Inform respective authorities in case of seepage into water course or sewage system.

Do not allow to enter sewers/ surface or ground water.

· **Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Do not flush with water or aqueous cleansing agents

· **Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage

· **Handling:**

· **Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.

(Contd. on page 4)

Trade name: HFA 1024

(Contd. of page 3)

Prevent formation of aerosols.

- **Information about fire - and explosion protection:**

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

- **Conditions for safe storage, including any incompatibilities**

- **Storage:**

- **Requirements to be met by storerooms and receptacles:** No special requirements.

- **Information about storage in one common storage facility:** Not required.

- **Further information about storage conditions:** Keep container tightly sealed.

- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.

- **Control parameters**

- **Ingredients with limit values that require monitoring at the workplace:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

- **Additional information:** The lists valid during the making were used as basis.

- **Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

- **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye protection:**



Tightly sealed goggles

Trade name: HFA 1024

(Contd. of page 4)

9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

Form:	Liquid
Colour:	Amber coloured
Odour:	Aromatic
Odour threshold:	Not determined.

pH-value:	Not determined.
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· Change in condition

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	164°C

Flash point:	48°C
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Flammability (solid, gaseous):	Not applicable.
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Ignition temperature:	440°C
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Decomposition temperature:	Not determined.
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Self-igniting:	Product is not selfigniting.
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Danger of explosion:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
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· Explosion limits:

Lower:	0.8 Vol %
Upper:	7.0 Vol %

Vapour pressure at 20°C:	5 hPa
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Density at 20°C:	1.029 g/cm ³
Relative density	Not determined.
Vapour density	Not determined.
Evaporation rate	Not determined.

Solubility in / Miscibility with water:	Not miscible or difficult to mix.
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Segregation coefficient (n-octanol/water):	Not determined.
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· Viscosity:

Dynamic:	Not determined.
Kinematic:	Not determined.

Other information	No further relevant information available.
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10 Stability and reactivity

· Reactivity

· Chemical stability

· Thermal decomposition / conditions to be avoided:

No decomposition if used according to specifications.

· Possibility of hazardous reactions

No dangerous reactions known.

· Conditions to avoid

No further relevant information available.

· Incompatible materials:

No further relevant information available.

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Printing date 01.03.2012

Revision: 01.03.2012

Trade name: HFA 1024

(Contd. of page 5)

· **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

· **Information on toxicological effects**

· **Acute toxicity:**

· **LD/LC50 values relevant for classification:**

37205-87-1 Isononylphenol, ethoxylated

Oral	LD50	>2000 mg/kg (rat)
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9186-68-5 Hydrocarbons, C9, aromatics

Oral	LD50	> 3500 mg/kg (rat) (OECD TG 401)
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Dermal	LD50	> 3000 mg/kg (rat) (OECD TG 402)
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Inhalative	LC50/4 h	> 6000 mg/l (rat) (OECD TG 403)
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· **Primary irritant effect:**

· **on the skin:** Irritant to skin and mucous membranes.

· **on the eye:** Irritating effect.

· **Sensitization:** No sensitizing effects known.

· **Additional toxicological information:**

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

Irritant

12 Ecological information

· **Toxicity**

· **Aquatic toxicity:** No further relevant information available.

· **Persistence and degradability** No further relevant information available.

· **Behaviour in environmental systems:**

· **Bioaccumulative potential** No further relevant information available.

· **Mobility in soil** No further relevant information available.

· **Ecotoxicological effects:**

· **Remark:** Harmful to fish

· **Additional ecological information:**

· **General notes:**

Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into the ground.

Harmful to aquatic organisms

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **Other adverse effects** No further relevant information available.

13 Disposal considerations

· **Waste treatment methods**

· **Recommendation**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

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Printing date 01.03.2012



Revision: 01.03.2012

Trade name: HFA 1024

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- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

· UN-Number	
· ADR, IMDG, IATA	UN1993
· UN proper shipping name	
· ADR	1993 FLAMMABLE LIQUID, N.O.S. (Hydrocarbons, C9, aromatics)
· IMDG, IATA	FLAMMABLE LIQUID, N.O.S. (Hydrocarbons, C9, aromatics)
· Transport hazard class(es)	
· ADR	
	
· Class	3 Flammable liquids.
· Label	3
· IMDG, IATA	
	
· Class	3 Flammable liquids.
· Label	3
· Packing group	
· ADR, IMDG, IATA	III
· Environmental hazards:	
· Marine pollutant:	No
· Special precautions for user	Warning: Flammable liquids.
· Danger code (Kemler):	30
· EMS Number:	F-E, <u>S</u> -E
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Tunnel restriction code	D/E
· UN "Model Regulation":	UN1993, FLAMMABLE LIQUID, N.O.S. (Hydrocarbons, C9, aromatics), 3, III

GB

(Contd. on page 8)

Printing date 01.03.2012

Revision: 01.03.2012

Trade name: HFA 1024

(Contd. of page 7)

15 Regulatory information

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant phrases**

- H226 Flammable liquid and vapour.
- H304 May be fatal if swallowed and enters airways.
- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H335 May cause respiratory irritation.
- H336 May cause drowsiness or dizziness.
- H411 Toxic to aquatic life with long lasting effects.
- R10 Flammable.
- R36/38 Irritating to eyes and skin.
- R37 Irritating to respiratory system.
- R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- R65 Harmful: may cause lung damage if swallowed.
- R66 Repeated exposure may cause skin dryness or cracking.
- R67 Vapours may cause drowsiness and dizziness.

- **Department issuing MSDS:** Product safety department

- **Contact:** Mr. G.C. Spruijt

- **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
 RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
 IMDG: International Maritime Code for Dangerous Goods
 IATA: International Air Transport Association
 ICAO: International Civil Aviation Organization
 GHS: Globally Harmonized System of Classification and Labelling of Chemicals
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent

GB

1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
- **Trade name:** **HFA 1026**
- **Relevant identified uses of the substance or mixture and uses advised against**
- **Sector of Use** Oil Industry
- **Application of the substance / the preparation** Dehazer
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
WRT B.V.
Strawinskylaan 3067
1077ZX Amsterdam
The Netherlands
Tel.: 00-31-(0)20-644 2831
Fax.: 00-31-(0)20-642 3962
info@wrtbv.com
- **Further information obtainable from:**
Product Safety Department
Tel.: 00-31-(0)-644 2831
info@wrtbv.com
Support is only given in the following languages: Dutch, English and German
- **Emergency telephone number:**
Product Safety department
In case of a spill or accident, you can contact us at:
Tel.: 00-31-(0)20-644 2831
During office hours we can be contacted for general information at
Tel.: 00-31-(0)20-6442831
Support is only given in the following languages: Dutch, English, and German

2 Hazards identification

- **Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS02 flame

Flam. Liq. 3 H226 Flammable liquid and vapour.



GHS08 health hazard

Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.
 Eye Irrit. 2 H319 Causes serious eye irritation.
 STOT SE 3 H335+H336 May cause respiratory irritation. May cause drowsiness or dizziness.
 Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



Xn; Harmful

R65: Harmful: may cause lung damage if swallowed.



Xi; Irritant

R36/37/38: Irritating to eyes, respiratory system and skin.

(Contd. on page 2)

Trade name: HFA 1026

(Contd. of page 1)

R10-52/53-67: Flammable. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Vapours may cause drowsiness and dizziness.

· **Information concerning particular hazards for human and environment:**

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

· **Classification system:**

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

· **Label elements**

· **Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the CLP regulation.

· **Hazard pictograms**



GHS02 GHS07 GHS08

· **Signal word** Danger

· **Hazard-determining components of labelling:**

Hydrocarbons, C9, aromatics

· **Hazard statements**

H226 Flammable liquid and vapour.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335+H336 May cause respiratory irritation. May cause drowsiness or dizziness.

H304 May be fatal if swallowed and enters airways.

H412 Harmful to aquatic life with long lasting effects.

· **Precautionary statements**

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P103 Read label before use.

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

· **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**

CAS: 37205-87-1	Isononylphenol, ethoxylated	50 - 80%
	Xi R36/38	
	Skin Irrit. 2, H315; Eye Irrit. 2, H319	

(Contd. on page 3)




Trade name: HFA 1026

(Contd. of page 2)





CAS: 9186-68-5

EC number: 918-668-5

Hydrocarbons, C9, aromatics

 Xn R65;  Xi R37;  N R51/53

R10-66-67

 Flam. Liq. 3, H226;  Asp. Tox. 1, H304;  Aquatic Chronic 2, H411;  STOT SE 3, H335+H336

15 - 50%

· **Additional information:** For the wording of the listed risk phrases refer to section 16.

4 First aid measures

· **Description of first aid measures**

· **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.

· **After skin contact:** Immediately wash with water and soap and rinse thoroughly.

· **After eye contact:**

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

· **After swallowing:** If symptoms persist consult doctor.

· **Information for doctor:**

· **Most important symptoms and effects, both acute and delayed**

No further relevant information available.

· **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

5 Firefighting measures

· **Extinguishing media**

· **Suitable extinguishing agents:** CO₂, sand, extinguishing powder. Do not use water.

· **For safety reasons unsuitable extinguishing agents:** Water with full jet

· **Special hazards arising from the substance or mixture**

No further relevant information available.

· **Advice for firefighters**

· **Protective equipment:** No special measures required.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

· **Environmental precautions:**

Do not allow product to reach sewage system or any water course.

Inform respective authorities in case of seepage into water course or sewage system.

Do not allow to enter sewers/ surface or ground water.

· **Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Do not flush with water or aqueous cleansing agents

· **Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage

· **Handling:**

· **Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.

(Contd. on page 4)

Trade name: HFA 1026

(Contd. of page 3)

Prevent formation of aerosols.

· **Information about fire - and explosion protection:**

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

· **Conditions for safe storage, including any incompatibilities**

· **Storage:**

· **Requirements to be met by storerooms and receptacles:** No special requirements.

· **Information about storage in one common storage facility:** Not required.

· **Further information about storage conditions:** Keep container tightly sealed.

· **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

· **Additional information about design of technical facilities:** No further data; see item 7.

· **Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

· **Additional information:** The lists valid during the making were used as basis.

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

· **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

Trade name: HFA 1026

(Contd. of page 4)

9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

Form:	Liquid
Colour:	Amber coloured
Odour:	Aromatic
Odour threshold:	Not determined.

· pH-value: Not determined.

· Change in condition

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	164°C

· Flash point: 48°C

· Flammability (solid, gaseous): Not applicable.

· Ignition temperature: 440°C

· Decomposition temperature: Not determined.

· Self-igniting: Product is not selfigniting.

· Danger of explosion: Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

· Explosion limits:

Lower:	0.8 Vol %
Upper:	7.0 Vol %

· Vapour pressure at 20°C: 5 hPa

Density at 20°C:	1.029 g/cm ³
Relative density	Not determined.
Vapour density	Not determined.
Evaporation rate	Not determined.

· Solubility in / Miscibility with water: Not miscible or difficult to mix.

· Segregation coefficient (n-octanol/water): Not determined.

· Viscosity:

Dynamic:	Not determined.
Kinematic:	Not determined.

· Other information: No further relevant information available.

10 Stability and reactivity

· Reactivity

· Chemical stability

· Thermal decomposition / conditions to be avoided:

No decomposition if used according to specifications.

· Possibility of hazardous reactions: No dangerous reactions known.

· Conditions to avoid: No further relevant information available.

· Incompatible materials: No further relevant information available.

(Contd. on page 6)

Trade name: HFA 1026

(Contd. of page 5)

· **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

· **Information on toxicological effects**

· **Acute toxicity:**

· **LD/LC50 values relevant for classification:**

37205-87-1 Isononylphenol, ethoxylated

Oral	LD50	>2000 mg/kg (rat)
------	------	-------------------

9186-68-5 Hydrocarbons, C9, aromatics

Oral	LD50	> 3500 mg/kg (rat) (OECD TG 401)
------	------	----------------------------------

Dermal	LD50	> 3000 mg/kg (rat) (OECD TG 402)
--------	------	----------------------------------

Inhalative	LC50/4 h	> 6000 mg/l (rat) (OECD TG 403)
------------	----------	---------------------------------

· **Primary irritant effect:**

· **on the skin:** Irritant to skin and mucous membranes.

· **on the eye:** Irritating effect.

· **Sensitization:** No sensitizing effects known.

· **Additional toxicological information:**

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

Irritant

12 Ecological information

· **Toxicity**

· **Aquatic toxicity:** No further relevant information available.

· **Persistence and degradability** No further relevant information available.

· **Behaviour in environmental systems:**

· **Bioaccumulative potential** No further relevant information available.

· **Mobility in soil** No further relevant information available.

· **Ecotoxicological effects:**

· **Remark:** Harmful to fish

· **Additional ecological information:**

· **General notes:**

Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into the ground.

Harmful to aquatic organisms

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **Other adverse effects** No further relevant information available.

13 Disposal considerations

· **Waste treatment methods**

· **Recommendation**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

(Contd. on page 7)

Printing date 01.03.2012



Revision: 01.03.2012

Trade name: HFA 1026

(Contd. of page 6)

- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

· UN-Number	
· ADR, IMDG, IATA	UN1993
· UN proper shipping name	
· ADR	1993 FLAMMABLE LIQUID, N.O.S. (Hydrocarbons, C9, aromatics)
· IMDG, IATA	FLAMMABLE LIQUID, N.O.S. (Hydrocarbons, C9, aromatics)
· Transport hazard class(es)	
· ADR	
	
· Class	3 Flammable liquids.
· Label	3
· IMDG, IATA	
	
· Class	3 Flammable liquids.
· Label	3
· Packing group	
· ADR, IMDG, IATA	III
· Environmental hazards:	
· Marine pollutant:	No
· Special precautions for user	Warning: Flammable liquids.
· Danger code (Kemler):	30
· EMS Number:	F-E, <u>S</u> -E
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Tunnel restriction code	D/E
· UN "Model Regulation":	UN1993, FLAMMABLE LIQUID, N.O.S. (Hydrocarbons, C9, aromatics), 3, III

GB

(Contd. on page 8)

Printing date 01.03.2012

Revision: 01.03.2012

Trade name: HFA 1026

(Contd. of page 7)

15 Regulatory information

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant phrases**

- H226 Flammable liquid and vapour.
- H304 May be fatal if swallowed and enters airways.
- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H335 May cause respiratory irritation.
- H336 May cause drowsiness or dizziness.
- H411 Toxic to aquatic life with long lasting effects.
- R10 Flammable.
- R36/38 Irritating to eyes and skin.
- R37 Irritating to respiratory system.
- R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- R65 Harmful: may cause lung damage if swallowed.
- R66 Repeated exposure may cause skin dryness or cracking.
- R67 Vapours may cause drowsiness and dizziness.

- **Department issuing MSDS:** Product safety department

- **Contact:** Mr. G.C. Spruijt

- **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
ICAO: International Civil Aviation Organization
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent

GB

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name: **HFA 1174**

1.2 Relevant identified uses of the substance or mixture and uses advised against
Cloud Point Improver

Sector of Use SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites

Product category PC13 Fuels

Application of the substance / the mixture

Additive

Cloud Point Improver

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

WRT B.V.

Strawinskylaan 3067

1077ZX Amsterdam

The Netherlands

Tel.: 00-31-(0)20-644 2831

Fax.: 00-31-(0)20-642 3962

info@wrtbv.com

Further information obtainable from:

Product Safety Department

Tel.: 00-31-(0)-644 2831

info@wrtbv.com

Support is only given in the following languages: Dutch, English and German

1.4 Emergency telephone number:

Product Safety department

In case of a spill or accident, you can contact us at:

Tel.: 00-31-(0)20-644 2831

During office hours we can be contacted for general information at

Tel.: 00-31-(0)20-6442831

Support is only given in the following languages: Dutch, English, and German

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008



GHS02 flame

Flam. Liq. 3 H226 Flammable liquid and vapour.



GHS08 health hazard

Carc. 2 H351 Suspected of causing cancer.



GHS09 environment

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.



GHS07

STOT SE 3 H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.

(Contd. on page 2)

Trade name: HFA 1174

(Contd. of page 1)

Classification according to Directive 67/548/EEC or Directive 1999/45/EC



Xn; Harmful

R40:

Limited evidence of a carcinogenic effect.



Xi; Irritant

R37:

Irritating to respiratory system.



N; Dangerous for the environment

R51/53:

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R10-67:

Flammable. Vapours may cause drowsiness and dizziness.

Information concerning particular hazards for human and environment:

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

Classification system:

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the CLP regulation.

Hazard pictograms



GHS02



GHS07



GHS08



GHS09

Signal word Warning

Hazard-determining components of labelling:

naphthalene

Hazard statements

H226 Flammable liquid and vapour.

H351 Suspected of causing cancer.

H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.

H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P241 Use explosion-proof electrical/ventilating/lighting/equipment.

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

3.2 Chemical characterization: Mixtures

Description: Mixture of substances listed below with nonhazardous additions.

(Contd. on page 3)

Trade name: HFA 1174

(Contd. of page 2)

Dangerous components:

EC number: 918-668-5 Reg.nr.: 01-2119455851-35	Hydrocarbons, C9, Aromatics ❗ Xi R37; ❗ N R51/53 R10-66-67 ⚠ Flam. Liq. 3, H226; ⚠ Asp. Tox. 1, H304; ⚠ Aquatic Chronic 2, H411; ⚠ STOT SE 3, H335-H336	50 - 70%
CAS: 64742-94-5 EINECS: 265-198-5 Reg.nr.: 01-2119463583-34	Solvent naphtha (petroleum), heavy arom. ❗ Xn R65 ⚠ Asp. Tox. 1, H304	20 - 30%
CAS: 91-20-3 EINECS: 202-049-5 Reg.nr.: 01-2119561346-37	naphthalene ❗ Xn R22-40; ❗ N R50/53 Carc. Cat. 3 ⚠ Carc. 2, H351; ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ⚠ Acute Tox. 4, H302	0.5 - 2.5%
CAS: 95-63-6 EINECS: 202-436-9 Reg.nr.: 05-2117202756-46	1,2,4-trimethylbenzene ❗ Xn R20; ❗ Xi R36/37/38; ❗ N R51/53 R10 ⚠ Flam. Liq. 3, H226; ⚠ Aquatic Chronic 2, H411; ⚠ Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	0.5 - 2.5%
CAS: 108-67-8 EINECS: 203-604-4 Reg.nr.: 01-2119463878-19	mesitylene ❗ Xi R37; ❗ N R51/53 R10 ⚠ Flam. Liq. 3, H226; ⚠ Aquatic Chronic 2, H411; ⚠ STOT SE 3, H335	0.05 - 1.0%

Additional information: For the wording of the listed risk phrases refer to section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** If symptoms persist consult doctor.

4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

- **Suitable extinguishing agents:** CO₂, sand, extinguishing powder. Do not use water.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet

5.2 Special hazards arising from the substance or mixture

In case of fire, the following can be released:

Carbon monoxide (CO)

Carbon dioxide (CO₂)

5.3 Advice for firefighters
Protective equipment:

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

GB

(Contd. on page 4)

Trade name: HFA 1174

(Contd. of page 3)

SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

· **6.2 Environmental precautions:**

Inform respective authorities in case of seepage into water course or sewage system.

Do not allow to enter sewers/ surface or ground water.

· **6.3 Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Do not flush with water or aqueous cleansing agents

· **6.4 Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

· **Information about fire - and explosion protection:**

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

· **7.2 Conditions for safe storage, including any incompatibilities**

· **Storage:**

· **Requirements to be met by storerooms and receptacles:** No special requirements.

· **Information about storage in one common storage facility:** Not required.

· **Further information about storage conditions:** Keep container tightly sealed.

· **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· **Additional information about design of technical facilities:** No further data; see item 7.

· **8.1 Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

95-63-6 1,2,4-trimethylbenzene

WEL	Long-term value: 125 mg/m ³ , 25 ppm
ILV	

108-67-8 mesitylene

WEL	Long-term value: 125 mg/m ³ , 25 ppm
ILV	

· **Additional information:** The lists valid during the making were used as basis.

· **8.2 Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

· **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

(Contd. on page 5)

Trade name: HFA 1174

(Contd. of page 4)

Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection:



Tightly sealed goggles

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information

Appearance:

Form:	Liquid
Colour:	Transparent
Odour:	Aromatic
Odour threshold:	Not determined.

pH-value: Not determined.

Change in condition

Boiling point/Boiling range:	164 °C
Pour point	minus 6 °C

Flash point: 48 °C

Ignition temperature: 440 °C

Decomposition temperature: Not determined.

Self-igniting: Product is not selfigniting.

Danger of explosion: Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

Explosion limits:

Lower:	0.8 Vol %
Upper:	7.0 Vol %

Vapour pressure at 20 °C: 5 hPa

Density at 15 °C: 0.88 - 0.91 g/cm³

Relative density: Not determined.

Vapour density: Not determined.

(Contd. on page 6)

Trade name: HFA 1174

(Contd. of page 5)

- | | |
|---|--|
| · Evaporation rate | Not determined. |
| · Solubility in / Miscibility with water: | Not miscible or difficult to mix. |
| · Partition coefficient (n-octanol/water): | Not determined. |
| · Viscosity: | |
| Dynamic at 20 °C: | 395 mPas |
| Kinematic at 20 °C: | 345 mm ² /s (DIN 51562) |
| · 9.2 Other information | No further relevant information available. |

SECTION 10: Stability and reactivity

- **10.1 Reactivity**
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid**
High temperature
Sources of ignition
Avoid the build-up of electrostatic charge
- **10.5 Incompatible materials:** Oxidizing materials
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity:**

- **LD/LC50 values relevant for classification:**

91-20-3 naphthalene

Oral	LD50	490 mg/kg (rat)
Dermal	LD50	5000 mg/kg (rat)

95-63-6 1,2,4-trimethylbenzene

Oral	LD50	5000 mg/kg (rat)
------	------	------------------

Hydrocarbons, C9, Aromatics

Oral	LD50	3592 mg/kg (rat) ((OECD 401))
Dermal	LD50	> 3160 mg/kg (rabbit) ((OECD 402))
Inhalative	LC50/4 h	> 6193 mg/l (rat) ((OECD 403))

- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Irritant
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
Carc. 2

GB

(Contd. on page 7)

Trade name: HFA 1174

(Contd. of page 6)

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Toxic for fish
- **Additional ecological information:**
- **General notes:**
 Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
 Do not allow product to reach ground water, water course or sewage system.
 Danger to drinking water if even small quantities leak into the ground.
 Also poisonous for fish and plankton in water bodies.
 Toxic for aquatic organisms
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
 Must not be disposed together with household garbage. Do not allow product to reach sewage system.
 The generation of waste should be avoided or minimised wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of split material and runoff and contact with soil, waterways, drains and sewers.
- **Uncleaned packaging:**
- **Recommendation:**
 Disposal must be made according to official regulations.
 This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have been cleaned or rinsed out. Emptied containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of split material and runoff and contact with soil, waterways, drains and sewers.




SECTION 14: Transport information

- | | |
|-------------------------------------|---|
| 14.1 UN-Number | |
| ADR, IMDG, IATA | 1993 |
| 14.2 UN proper shipping name | |
| ADR | 1993 FLAMMABLE LIQUID, N.O.S. (Hydrocarbons, C9, aromatics) |

(Contd. on page 8)

Trade name: HFA 1174

(Contd. of page 7)

· IMDG	FLAMMABLE LIQUID, N.O.S. (Hydrocarbons, C9, aromatics, NAPHTHALENE, CRUDE)
· IATA	FLAMMABLE LIQUID, N.O.S. (Hydrocarbons, C9, aromatics)
· 14.3 Transport hazard class(es)	
· ADR, IMDG	
 	
· Class	3 Flammable liquids.
· Label	3
· IATA	
	
· Class	3 Flammable liquids.
· Label	3
· 14.4 Packing group	
· ADR, IMDG, IATA	III
· 14.5 Environmental hazards:	Product contains environmentally hazardous substances: naphthalene
· Marine pollutant:	Yes
· Special marking (ADR):	Symbol (fish and tree)
· 14.6 Special precautions for user	Warning: Flammable liquids.
· Danger code (Kemler):	30
· EMS Number:	F-E,S-E
· 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	LQ7
· Transport category	3
· Tunnel restriction code	D/E
· UN "Model Regulation":	UN1993, FLAMMABLE LIQUID, N.O.S., 3, III

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
No further relevant information available.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

GB

(Contd. on page 9)

Safety data sheet according to 453/2010/EC

Printing date 14.11.2014

Version number 2

Revision: 14.11.2014

Trade name: HFA 1174

(Contd. of page 8)

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Relevant phrases

H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
R10	Flammable.
R20	Harmful by inhalation.
R22	Harmful if swallowed.
R36/37/38	Irritating to eyes, respiratory system and skin.
R37	Irritating to respiratory system.
R40	Limited evidence of a carcinogenic effect.
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R65	Harmful: may cause lung damage if swallowed.
R66	Repeated exposure may cause skin dryness or cracking.
R67	Vapours may cause drowsiness and dizziness.

· **Department issuing MSDS:** Product safety department

· **Contact:** Mr. G.C. Spruijt

· Abbreviations and acronyms:

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
 ICAO: International Civil Aviation Organization
 ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
 IMDG: International Maritime Code for Dangerous Goods
 IATA: International Air Transport Association
 GHS: Globally Harmonized System of Classification and Labelling of Chemicals
 EINECS: European Inventory of Existing Commercial Chemical Substances
 ELINCS: European List of Notified Chemical Substances
 CAS: Chemical Abstracts Service (division of the American Chemical Society)
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent
 Flam. Liq. 3: Flammable liquids, Hazard Category 3
 Acute Tox. 4: Acute toxicity, Hazard Category 4
 Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
 Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2
 Carc. 2: Carcinogenicity, Hazard Category 2
 STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3
 Asp. Tox. 1: Aspiration hazard, Hazard Category 1
 Aquatic Acute 1: Hazardous to the aquatic environment - AcuteHazard, Category 1
 Aquatic Chronic 1: Hazardous to the aquatic environment - Chronic Hazard, Category 1
 Aquatic Chronic 2: Hazardous to the aquatic environment - Chronic Hazard, Category 2

GB

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name: **HFA 1183**

1.2 Relevant identified uses of the substance or mixture and uses advised against
Cloud Point Improver

Sector of Use SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites

Product category PC13 Fuels

Application of the substance / the mixture Additive

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

WRT B.V.

Strawinskylaan 3067

1077ZX Amsterdam

The Netherlands

Tel.: 00-31-(0)20-644 2831

Fax.: 00-31-(0)20-642 3962

info@wrtbv.com

Further information obtainable from:

Product Safety Department

Tel.: 00-31-(0)-644 2831

info@wrtbv.com

Support is only given in the following languages: Dutch, English and German

1.4 Emergency telephone number:

Product Safety department

In case of a spill or accident, you can contact us at:

Tel.: 00-31-(0)20-644 2831

During office hours we can be contacted for general information at

Tel.: 00-31-(0)20-6442831

Support is only given in the following languages: Dutch, English, and German

+31(0)20 644 28 31

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008



GHS02 flame

Flam. Liq. 3

H226 Flammable liquid and vapour.



GHS08 health hazard

Carc. 2

H351 Suspected of causing cancer.

Asp. Tox. 1

H304 May be fatal if swallowed and enters airways.



GHS09 environment

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC



Xn; Harmful

R40-65: Limited evidence of a carcinogenic effect. Harmful: may cause lung damage if swallowed.



Xi; Irritant

R37: Irritating to respiratory system.

Trade name: HFA 1183

(Contd. of page 1)



N; Dangerous for the environment

R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R10-67: Flammable. Vapours may cause drowsiness and dizziness.

Information concerning particular hazards for human and environment:

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

Classification system:

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

2.2 Label elements
Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the CLP regulation.

Hazard pictograms


GHS02

GHS08

GHS09

Signal word Danger

Hazard-determining components of labelling:

Solvent naphtha (petroleum), heavy arom.
naphthalene

Hazard statements

H226 Flammable liquid and vapour.

H351 Suspected of causing cancer.

H304 May be fatal if swallowed and enters airways.

H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P241 Use explosion-proof electrical/ventilating/lighting/equipment.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.







2.3 Other hazards
Results of PBT and vPvB assessment
PBT: Not applicable.

vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

3.2 Chemical characterisation: Mixtures
Description: Mixture of substances listed below with nonhazardous additions.

Dangerous components:

EC number: 918-668-5 Reg.nr.: 01-2119455851-35	Hydrocarbons, C9, Aromatics  Xi R37;  N R51/53 R10-66-67  Flam. Liq. 3, H226;  Asp. Tox. 1, H304;  Aquatic Chronic 2, H411;  STOT SE 3, H335-H336	30 - 50%
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(Contd. on page 3)

Trade name: HFA 1183

(Contd. of page 2)

CAS: 64742-94-5 EINECS: 265-198-5 Reg.nr.: 01-2119463583-34	Solvent naphtha (petroleum), heavy arom. Xn R65 Asp. Tox. 1, H304	40 -50%
CAS: 91-20-3 EINECS: 202-049-5 Reg.nr.: 01-2119561346-37	naphthalene Xn R22-40; N R50/53 Carc. Cat. 3 Carc. 2, H351; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Acute Tox. 4, H302	0.5 - 2.5%
CAS: 95-63-6 EINECS: 202-436-9 Reg.nr.: 05-2117202756-46	1,2,4-trimethylbenzene Xn R20; Xi R36/37/38; N R51/53 R10 Flam. Liq. 3, H226; Aquatic Chronic 2, H411; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	0.5 - 2.5%
CAS: 108-67-8 EINECS: 203-604-4 Reg.nr.: 01-2119463878-19	mesitylene Xi R37; N R51/53 R10 Flam. Liq. 3, H226; Aquatic Chronic 2, H411; STOT SE 3, H335	0.5 - 1.0%

· **Additional information:** For the wording of the listed risk phrases refer to section 16.

SECTION 4: First aid measures

· 4.1 Description of first aid measures

· **After inhalation:** Supply fresh air; consult doctor in case of complaints.

· **After skin contact:** Generally the product does not irritate the skin.

· **After eye contact:**

Rinse opened eye for several minutes under running water.

Check for and remove any contact lenses

· **After swallowing:** If symptoms persist consult doctor.

· 4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

· 4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

SECTION 5: Firefighting measures

· 5.1 Extinguishing media

· **Suitable extinguishing agents:**

CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· **For safety reasons unsuitable extinguishing agents:** Water with full jet

· 5.2 Special hazards arising from the substance or mixture

In case of fire, the following can be released:

Carbon monoxide (CO)

Carbon dioxide (CO₂)

· 5.3 Advice for firefighters

· **Protective equipment:**

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

· 6.1 Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

(Contd. on page 4)

Trade name: HFA 1183

(Contd. of page 3)

6.2 Environmental precautions:

Inform respective authorities in case of seepage into water course or sewage system.

Dilute with plenty of water.

Do not allow to enter sewers/ surface or ground water.

6.3 Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

6.4 Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

Information about fire - and explosion protection:

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

7.2 Conditions for safe storage, including any incompatibilities

Storage:

Requirements to be met by storerooms and receptacles: No special requirements.

Information about storage in one common storage facility: Not required.

Further information about storage conditions: Keep container tightly sealed.

7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

Additional information about design of technical facilities: No further data; see item 7.

8.1 Control parameters

Ingredients with limit values that require monitoring at the workplace:

95-63-6 1,2,4-trimethylbenzene

WEL	Long-term value: 125 mg/m ³ , 25 ppm
ILV	

108-67-8 mesitylene

WEL	Long-term value: 125 mg/m ³ , 25 ppm
ILV	

Additional information: The lists valid during the making were used as basis.

8.2 Exposure controls

Personal protective equipment:

General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Respiratory protection:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

Protection of hands:



Protective gloves

(Contd. on page 5)

Trade name: HFA 1183

(Contd. of page 4)

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection:



Tightly sealed goggles

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information

Appearance:

Form:	Liquid
Colour:	Whitish
Odour:	Petroleum hydrocarbon odour
Odour threshold:	Not determined.

pH-value: Not determined.

Change in condition

Melting point/Melting range: Undetermined.

Boiling point/Boiling range: 96 °C

Pour point: minus 9 °C

Flash point: 51 °C

Ignition temperature: 440 °C

Decomposition temperature: Not determined.

Self-igniting: Product is not selfigniting.

Danger of explosion: Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

Explosion limits:

Lower: 0.45 Vol %

Upper: 5.5 Vol %

Vapour pressure at 20 °C: 5 hPa

Density at 15 °C: 0.89 - 0.92 g/cm³

Relative density: Not determined.

Vapour density: Not determined.

Evaporation rate: Not determined.

Solubility in / Miscibility with water:

Fully miscible.

(Contd. on page 6)

Trade name: HFA 1183

(Contd. of page 5)

- **Partition coefficient (n-octanol/water):** Not determined.
- **Viscosity:**
 - Dynamic at 40 °C:** 2790 mm/s²
 - Kinematic:** Not determined.
- **9.2 Other information** No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity**
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid**
 - High temperature
 - Sources of ignition
 - Avoid the build-up of electrostatic charge
- **10.5 Incompatible materials:** Strong oxidizing agents
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity:**

- **LD/LC50 values relevant for classification:**

91-20-3 naphthalene

Oral	LD50	490 mg/kg (rat)
Dermal	LD50	5000 mg/kg (rat)

95-63-6 1,2,4-trimethylbenzene

Oral	LD50	5000 mg/kg (rat)
------	------	------------------

Hydrocarbons, C9, Aromatics

Oral	LD50	3592 mg/kg (rat) ((OECD 401))
Dermal	LD50	> 3160 mg/kg (rabbit) ((OECD 402))
Inhalative	LC50/4 h	> 6193 mg/l (rat) ((OECD 403))

- **Primary irritant effect:**
 - on the skin:** No irritant effect.
 - on the eye:** No irritating effect.
- **Sensitisation:** No sensitising effects known.
- **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Irritant
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
Carc. 2

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.

(Contd. on page 7)

Trade name: HFA 1183

(Contd. of page 6)

- **12.4 Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Toxic for fish
- **Additional ecological information:**
- **General notes:**
 Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
 Do not allow product to reach ground water, water course or sewage system.
 Danger to drinking water if even small quantities leak into the ground.
 Also poisonous for fish and plankton in water bodies.
 Toxic for aquatic organisms
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
 Must not be disposed together with household garbage. Do not allow product to reach sewage system.
 The generation of waste should be avoided or minimised wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of split material and runoff and contact with soil, waterways, drains and sewers.
- **Uncleaned packaging:**
- **Recommendation:**
 Disposal must be made according to official regulations.
 This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have been cleaned or rinsed out. Emptied containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of split material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

- | | |
|-------------------------------------|--|
| 14.1 UN-Number | |
| ADR, IMDG, IATA | 1993 |
| 14.2 UN proper shipping name | |
| ADR | 1993 FLAMMABLE LIQUID, N.O.S. (Hydrocarbons, C9, aromatics) |
| IMDG | FLAMMABLE LIQUID, N.O.S. (Hydrocarbons, C9, aromatics, NAPHTHALENE, CRUDE) |
| IATA | FLAMMABLE LIQUID, N.O.S. (Hydrocarbons, C9, aromatics) |

(Contd. on page 8)

Trade name: HFA 1183

(Contd. of page 7)

· **14.3 Transport hazard class(es)**

· **ADR, IMDG**



· **Class**

3 Flammable liquids.

· **Label**

3

· **IATA**



· **Class**

3 Flammable liquids.

· **Label**

3

· **14.4 Packing group**

· **ADR, IMDG, IATA**

III

· **14.5 Environmental hazards:**

Product contains environmentally hazardous substances:
naphthalene

· **Marine pollutant:**

Yes

· **Special marking (ADR):**

Symbol (fish and tree)
Symbol (fish and tree)

· **14.6 Special precautions for user**

Warning: Flammable liquids.

· **Danger code (Kemler):**

30

· **EMS Number:**

F-E, S-E

· **14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable.

· **Transport/Additional information:**

· **ADR**

· **Limited quantities (LQ)**

LQ7

· **Transport category**

3

· **Tunnel restriction code**

D/E

· **UN "Model Regulation":**

UN1993, FLAMMABLE LIQUID, N.O.S., 3, III

SECTION 15: Regulatory information

· **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

No further relevant information available.

· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant phrases**

H226 Flammable liquid and vapour.

(Contd. on page 9)

Trade name: HFA 1183

(Contd. of page 8)

H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
R10	Flammable.
R20	Harmful by inhalation.
R22	Harmful if swallowed.
R36/37/38	Irritating to eyes, respiratory system and skin.
R37	Irritating to respiratory system.
R40	Limited evidence of a carcinogenic effect.
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R65	Harmful: may cause lung damage if swallowed.
R66	Repeated exposure may cause skin dryness or cracking.
R67	Vapours may cause drowsiness and dizziness.

· **Department issuing MSDS:** Product safety department

· **Contact:** Mr. G.C. Spruijt

· **Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

Flam. Liq. 3: Flammable liquids, Hazard Category 3

Acute Tox. 4: Acute toxicity, Hazard Category 4

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2

Carc. 2: Carcinogenicity, Hazard Category 2

STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

Asp. Tox. 1: Aspiration hazard, Hazard Category 1

Aquatic Acute 1: Hazardous to the aquatic environment - Acute Hazard, Category 1

Aquatic Chronic 1: Hazardous to the aquatic environment - Chronic Hazard, Category 1

Aquatic Chronic 2: Hazardous to the aquatic environment - Chronic Hazard, Category 2

1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
- **Trade name:** *HFA 2039*
- **Relevant identified uses of the substance or mixture and uses advised against**
RON / MON Improver
- **Sector of Use**
*SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites
Oil Industry*
- **Product category** *PC13 Fuels*
- **Application of the substance / the mixture** *RON/MON Improver*
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
*WRT B.V.
Strawinskylaan 3067
1077 ZX Amsterdam
Nederland
Tel.: +31 (0)20 644 2831
Facsimile: +31 (0)20 642 3962
Email: info@wrtbv.com*
- **Further information obtainable from:** *Product safety department*
- **Emergency telephone number:** *During normal opening times: +31 2064 42831*

2 Hazards identification

- **Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS02 flame

Flam. Liq. 2 H225 Highly flammable liquid and vapour.



GHS08 health hazard

Repr. 2 H361d Suspected of damaging the unborn child.

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

STOT SE 3 H336 May cause drowsiness or dizziness.

Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



Xn; Harmful

R48/20-63: Harmful: danger of serious damage to health by prolonged exposure through inhalation.
Possible risk of harm to the unborn child.



Xi; Irritant

R38: Irritating to skin.



F; Highly flammable

R11: Highly flammable.

(Contd. on page 2)

Trade name: HFA 2039

(Contd. of page 1)

R67: Vapours may cause drowsiness and dizziness.

· **Information concerning particular hazards for human and environment:**

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

· **Classification system:**

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

· **Label elements**

· **Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the CLP regulation.

· **Hazard pictograms**



GHS02 GHS07 GHS08

· **Signal word** *Danger*

· **Hazard-determining components of labelling:**

toluene

· **Hazard statements**

H225 Highly flammable liquid and vapour.

H315 Causes skin irritation.

H361d Suspected of damaging the unborn child.

H336 May cause drowsiness or dizziness.

H373 May cause damage to organs through prolonged or repeated exposure.

H412 Harmful to aquatic life with long lasting effects.

· **Precautionary statements**

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P103 Read label before use.

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P241 Use explosion-proof electrical/ventilating/lighting/equipment.

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

· **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**

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CAS: 108-88-3 EINECS: 203-625-9 Reg.nr.: 01-2119471310-51	toluene Xn R48/20-63-65; Xi R38; F R11 R67 Repr. Cat. 3 Flam. Liq. 2, H225; Repr. 2, H361d; STOT RE 2, H373; Asp. Tox. 1, H304; Skin Irrit. 2, H315; STOT SE 3, H336
CAS: 102-54-5 EINECS: 203-039-3 Reg.nr.: 01-2119978280-34	ferrocene Xn R22; F R11; N R51/53 Flam. Sol. 1, H228; Aquatic Chronic 2, H411; Acute Tox. 4, H302

· **Additional information:** For the wording of the listed risk phrases refer to section 16.

4 First aid measures

· **Description of first aid measures**

· **General information:**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

· **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.

· **After skin contact:** Immediately wash with water and soap and rinse thoroughly.

· **After eye contact:** Rinse opened eye for several minutes under running water.

· **After swallowing:** If symptoms persist consult doctor.

· **Information for doctor:**

· **Most important symptoms and effects, both acute and delayed**

No further relevant information available.

· **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

5 Firefighting measures

· **Extinguishing media**

· **Suitable extinguishing agents:** CO₂, sand, extinguishing powder. Do not use water.

· **For safety reasons unsuitable extinguishing agents:** Water with full jet

· **Special hazards arising from the substance or mixture**

No further relevant information available.

· **Advice for firefighters**

· **Protective equipment:** No special measures required.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

· **Environmental precautions:**

Do not allow product to reach sewage system or any water course.

Inform respective authorities in case of seepage into water course or sewage system.

Do not allow to enter sewers/ surface or ground water.

· **Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Do not flush with water or aqueous cleansing agents

· **Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

(Contd. on page 4)

Trade name: HFA 2039

See Section 13 for disposal information.

(Contd. of page 3)

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
- **Information about fire - and explosion protection:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Keep container tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

108-88-3 toluene

WEL	Short-term value: 384 mg/m ³ , 100 ppm
	Long-term value: 191 mg/m ³ , 50 ppm
Sk	

- **Additional information:** The lists valid during the making were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Avoid contact with the skin.
Avoid contact with the eyes and skin.
- **Respiratory protection:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

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Trade name: HFA 2039

(Contd. of page 4)

· Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· Eye protection:



Tightly sealed goggles

9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

Form: Liquid

Colour: Dark brown

· **Odour:** Aromatic

· **Odour threshold:** Not determined.

· **pH-value:** Not determined.

· Change in condition

Melting point/Melting range: Undetermined.

Boiling point/Boiling range: 110 °C

· **Pour point** < minus 30 °C

· **Flash point:** 11 °C

· **Flammability (solid, gaseous):** Not applicable.

· **Ignition temperature:** 535 °C

· **Decomposition temperature:** Not determined.

· **Self-igniting:** Product is not selfigniting.

· **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

· Explosion limits:

Lower: 1.2 Vol %

Upper: 7.0 Vol %

· **Vapour pressure at 20 °C:** 29 hPa

· **Density at 20 °C:** 0.908 - 0.93 g/cm³

· **Relative density** Not determined.

· **Vapour density** Not determined.

· **Evaporation rate** Not determined.

· **Solubility in / Miscibility with water:**

Not miscible or difficult to mix.

· **Partition coefficient (n-octanol/water):** Not determined.

· Viscosity:

Dynamic at 20 °C: 0.8154 mPas

Kinematic: Not determined.

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· Other information

No further relevant information available.

10 Stability and reactivity

- **Reactivity**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· LD/LC50 values relevant for classification:

108-88-3 toluene

Oral	LD50	5000 mg/kg (rat)
Dermal	LD50	12 124 mg/kg (rabbit)
Inhalative	LC50/4 h	5320 mg/l (mouse)

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Irritant
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
Repr. 2

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

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Trade name: HFA 2039


(Contd. of page 6)

· **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

· UN-Number	
· ADR, IMDG, IATA	UN1993
· UN proper shipping name	
· ADR	1993 FLAMMABLE LIQUID, N.O.S. (TOLUENE)
· IMDG, IATA	FLAMMABLE LIQUID, N.O.S. (TOLUENE)
· Transport hazard class(es)	
· ADR, IMDG, IATA	
	
· Class	3 Flammable liquids.
· Label	3
· Packing group	
· ADR, IMDG, IATA	II
· Environmental hazards:	
· Marine pollutant:	No
· Special precautions for user	Warning: Flammable liquids.
· Danger code (Kemler):	33
· EMS Number:	F-E,S-E
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	5L
· Transport category	3
· Tunnel restriction code	D/E
· UN "Model Regulation":	UN1993, FLAMMABLE LIQUID, N.O.S. (TOLUENE), 3, II

15 Regulatory information

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

GB

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16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant phrases**

- H225 Highly flammable liquid and vapour.
- H228 Flammable solid.
- H302 Harmful if swallowed.
- H304 May be fatal if swallowed and enters airways.
- H315 Causes skin irritation.
- H336 May cause drowsiness or dizziness.
- H361d Suspected of damaging the unborn child.
- H373 May cause damage to organs through prolonged or repeated exposure.
- H411 Toxic to aquatic life with long lasting effects.

- R11 Highly flammable.
- R22 Harmful if swallowed.
- R38 Irritating to skin.
- R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.
- R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- R63 Possible risk of harm to the unborn child.
- R65 Harmful: may cause lung damage if swallowed.
- R67 Vapours may cause drowsiness and dizziness.

· **Department issuing MSDS:** Product safety department

· **Contact:** Mr. G.C. Spruijt

· **Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
 ICAO: International Civil Aviation Organization
 ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
 IMDG: International Maritime Code for Dangerous Goods
 IATA: International Air Transport Association
 GHS: Globally Harmonized System of Classification and Labelling of Chemicals
 EINECS: European Inventory of Existing Commercial Chemical Substances
 ELINCS: European List of Notified Chemical Substances
 CAS: Chemical Abstracts Service (division of the American Chemical Society)
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent

· *** Data compared to the previous version altered.** Reach registration numbers added

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 24.01.2014

Version number 5

Revision: 24.01.2014

1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
- **Trade name:** **HFA 2062**
- **Relevant identified uses of the substance or mixture and uses advised against**
Metal Deactivator
- **Sector of Use** SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites
- **Product category** PC13 Fuels
- **Application of the substance / the mixture** Additive
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
WRT B.V.
Strawinskylaan 3067
1077ZX Amsterdam
The Netherlands
Tel.: 00-31-(0)20-644 2831
Fax.: 00-31-(0)20-642 3962
info@wrtbv.com
- **Further information obtainable from:**
Product Safety Department
Tel.: 00-31-(0)-644 2831
info@wrtbv.com
Support is only given in the following languages: Dutch, English and German
- **Emergency telephone number:**
Product Safety department
In case of a spill or accident, you can contact us at:
Tel.: 00-31-(0)20-644 2831
During office hours we can be contacted for general information at
Tel.: 00-31-(0)20-6442831
Support is only given in the following languages: Dutch, English, and German

2 Hazards identification

- **Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS08 health hazard

Carc. 2 H351 Suspected of causing cancer.
Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.



GHS09 environment

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



Xn; Harmful

R40-65: Limited evidence of a carcinogenic effect. Harmful: may cause lung damage if swallowed.



N; Dangerous for the environment

R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

- **Information concerning particular hazards for human and environment:**

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

(Contd. on page 2)

Trade name: HFA 2062

(Contd. of page 1)

Classification system:

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

Label elements

Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the CLP regulation.

Hazard pictograms



GHS08 GHS09

Signal word Danger

Hazard-determining components of labelling:

Solvent naphtha (petroleum), heavy arom.
naphthalene

Hazard statements

H351 Suspected of causing cancer.
H304 May be fatal if swallowed and enters airways.
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P103 Read label before use.
P281 Use personal protective equipment as required.
P273 Avoid release to the environment.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P308+P313 IF exposed or concerned: Get medical advice/attention.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.
vPvB: Not applicable.

3 Composition/information on ingredients

Chemical characterization: Mixtures

Description: Mixture of substances listed below with nonhazardous additions.

Dangerous components:

CAS: 64742-94-5 EINECS: 265-198-5 Reg.nr.: 01-2119463583-34	Solvent naphtha (petroleum), heavy arom. Xn R65 Asp. Tox. 1, H304	30 - 60%
CAS: 95-63-6 EINECS: 202-436-9 Reg.nr.: 05-2117202756-46	1,2,4-trimethylbenzene Xn R20; Xi R36/37/38; N R51/53 R10 Flam. Liq. 3, H226; Aquatic Chronic 2, H411; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	1 - 5%
CAS: 91-20-3 EINECS: 202-049-5	naphthalene Xn R22-40; N R50/53 Carc. Cat. 3 Carc. 2, H351; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Acute Tox. 4, H302	1 - 5%

Additional information: For the wording of the listed risk phrases refer to section 16.

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according to 1907/2006/EC, Article 31

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Version number 5

Revision: 24.01.2014

Trade name: HFA 2062

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4 First aid measures

- **Description of first aid measures**

- **General information:** Immediately remove any clothing soiled by the product.

- **After inhalation:**

In event of over-exposure remove individual to fresh air, taking steps necessary to protect the rescuer. If unconscious but breathing, place in a recovery position. If breathing stops, administer artificial respiration.

- **After skin contact:**

Remove contaminated clothing as soon as possible; this will be a fire hazard. Wash exposed skin thoroughly with soap and water. If irritation persists, consult a physician. Launder contaminated clothing before re-use. Badly contaminated leather shoes or clothing be discarded.

- **After eye contact:**

Check for and remove any contact lenses

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

- **After swallowing:**

If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that the vomit does not enter the lungs. Get medical attention if adverse health persists or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

- **Information for doctor:**

- **Most important symptoms and effects, both acute and delayed**

No further relevant information available.

- **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

5 Firefighting measures

- **Extinguishing media**

- **Suitable extinguishing agents:**

CO₂, powder or water spray. Fight larger fire with alcohol resistant foam.

- **For safety reasons unsuitable extinguishing agents:** Water with full jet

- **Special hazards arising from the substance or mixture**

In case of fire, the following can be released:

Nitrogen oxides (NO_x)

Carbon monoxide (CO)

Carbon dioxide (CO₂)

- **Advice for firefighters**

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from the fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

- **Protective equipment:**

Wear fully protective suit.

Wear self-contained respiratory protective device.

- **Additional information** Cool endangered receptacles with water spray.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

Avoid contact with spilled material. Do not touch or walk through spilled material.

- **Environmental precautions:**

Do not allow product to reach sewage system or any water course.

Inform respective authorities in case of seepage into water course or sewage system.

Do not allow to enter sewers/ surface or ground water.

- **Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

(Contd. on page 4)

Trade name: HFA 2062

(Contd. of page 3)

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

· **Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage

· **Handling:**

· **Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

· **Information about fire - and explosion protection:**

Protect from heat.

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

· **Conditions for safe storage, including any incompatibilities**

· **Storage:**

· **Requirements to be met by storerooms and receptacles:**

Store only in the original receptacle.

· **Information about storage in one common storage facility:** Not required.

· **Further information about storage conditions:** None.

· **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

· **Additional information about design of technical facilities:** No further data; see item 7.

· **Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

95-63-6 1,2,4-trimethylbenzene

WEL	Long-term value: 125 mg/m ³ , 25 ppm
ILV	

· **Additional information:** The lists valid during the making were used as basis.

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Do not inhale gases / fumes / aerosols.

· **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

Short term filter device:

Filter A/P2

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

(Contd. on page 5)

Trade name: HFA 2062

(Contd. of page 4)

· **Material of gloves**

Nitrile rubber, NBR

Fluorocarbon rubber (Viton)

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**

Safety glasses

Goggles recommended during refilling

· **Body protection:** Solvent resistant protective clothing

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form:

Liquid

Colour:

Bronze coloured

· **Odour:**

Petroleum hydrocarbon odour

· **Odour threshold:**

Not determined.

· **pH-value:**

Not determined.

· **Change in condition**

Melting point/Melting range:

< minus 39 °C

Boiling point/Boiling range:

168 - 195 °C

· **Flash point:**

70 °C

· **Flammability (solid, gaseous):**

Not applicable.

· **Ignition temperature:**

485 °C

· **Decomposition temperature:**

Not determined.

· **Self-igniting:**

Product is not selfigniting.

· **Danger of explosion:**

Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

· **Explosion limits:**

Lower:

0.6 Vol %

Upper:

7 Vol %

· **Vapour pressure:**

Not determined.

· **Density at 15 °C:**

0.98 - 0.99 g/cm³

· **Relative density**

Not determined.

· **Vapour density**

Not determined.

· **Evaporation rate**

Not determined.

· **Solubility in / Miscibility with water:**

Not miscible or difficult to mix.

· **Partition coefficient (n-octanol/water):** Not determined.

· **Viscosity:**

Dynamic at 20 °C:

3 mPas

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Kinematic:	Not determined.
· Solvent content:	
VOC (EC)	5.00 %
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** Reactive or incompatible with the following materials: oxidizing materials
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

- **LD/LC50 values relevant for classification:**

95-63-6 1,2,4-trimethylbenzene

Oral	LD50	5000 mg/kg (rat)
------	------	------------------

91-20-3 naphthalene

Oral	LD50	490 mg/kg (rat)
------	------	-----------------

Dermal	LD50	5000 mg/kg (rat)
--------	------	------------------

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.
- **Sensitization:** Sensitization possible through skin contact.
- **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
- **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**
Carc. 2

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Toxic for fish
- **Additional ecological information:**
- **General notes:**
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.

(Contd. on page 7)

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Also poisonous for fish and plankton in water bodies.

Toxic for aquatic organisms

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **Other adverse effects** No further relevant information available.

13 Disposal considerations

· **Waste treatment methods**

· **Recommendation**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packaging:**

· **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

· **UN-Number**

· **ADR, IMDG, IATA**

UN3082

· **UN proper shipping name**

· **ADR**

3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (1,2,4-trimethylbenzene, NAPHTHALENE, CRUDE)

· **IMDG**

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (1,2,4-trimethylbenzene, NAPHTHALENE, CRUDE), MARINE POLLUTANT

· **IATA**

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (1,2,4-trimethylbenzene, NAPHTHALENE, CRUDE)

· **Transport hazard class(es)**

· **ADR, IMDG, IATA**



· **Class**

9 Miscellaneous dangerous substances and articles.

· **Label**

9

· **Packing group**

· **ADR, IMDG, IATA**

III

· **Environmental hazards:**

Product contains environmentally hazardous substances: naphthalene

· **Marine pollutant:**

Yes

Symbol (fish and tree)

· **Special marking (ADR):**

Symbol (fish and tree)

· **Special marking (IATA):**

Symbol (fish and tree)

· **Special precautions for user**

Warning: Miscellaneous dangerous substances and articles.

· **Danger code (Kemler):**

90

· **EMS Number:**

F-A,S-F

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· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code		Not applicable.
· Transport/Additional information:		
· ADR		
· Limited quantities (LQ)		5L
· Transport category		3
· Tunnel restriction code		E
· UN "Model Regulation":	UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (1,2,4-trimethylbenzene, NAPHTHALENE, CRUDE), 9, III	

15 Regulatory information

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant phrases**

H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
R10	Flammable.
R20	Harmful by inhalation.
R22	Harmful if swallowed.
R36/37/38	Irritating to eyes, respiratory system and skin.
R40	Limited evidence of a carcinogenic effect.
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R65	Harmful: may cause lung damage if swallowed.

- **Department issuing MSDS:** Product safety department

- **Contact:** Mr. G.C. Spruijt

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
 IMDG: International Maritime Code for Dangerous Goods
 IATA: International Air Transport Association
 GHS: Globally Harmonized System of Classification and Labelling of Chemicals
 EINECS: European Inventory of Existing Commercial Chemical Substances
 ELINCS: European List of Notified Chemical Substances
 CAS: Chemical Abstracts Service (division of the American Chemical Society)
 VOC: Volatile Organic Compounds (USA, EU)
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name: **HFA 2071**

1.2 Relevant identified uses of the substance or mixture and uses advised against
RON / MON Improver

Sector of Use SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites

Product category PC13 Fuels

Application of the substance / the mixture Additive

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

WRT B.V.

Strawinskylaan 3067

1077ZX Amsterdam

The Netherlands

Tel.: 00-31-(0)20-644 2831

Fax.: 00-31-(0)20-642 3962

info@wrtbv.com

Further information obtainable from:

Product Safety Department

Tel.: 00-31-(0)-644 2831

info@wrtbv.com

Support is only given in the following languages: Dutch, English and German

1.4 Emergency telephone number:

Product Safety department

In case of a spill or accident, you can contact us at:

Tel.: 00-31-(0)20-644 2831

During office hours we can be contacted for general information at

Tel.: 00-31-(0)20-6442831

Support is only given in the following languages: Dutch, English, and German

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008



GHS02 flame

Flam. Liq. 2 H225 Highly flammable liquid and vapour.



GHS06 skull and crossbones

Acute Tox. 3 H301 Toxic if swallowed.

Acute Tox. 3 H311 Toxic in contact with skin.

Acute Tox. 1 H330 Fatal if inhaled.



GHS08 health hazard

Repr. 2 H361d Suspected of damaging the unborn child.

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.

Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.

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GB

Trade name: HFA 2071

(Contd. of page 1)



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

STOT SE 3 H336 May cause drowsiness or dizziness.

Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the CLP regulation.

Hazard pictograms



GHS02



GHS06



GHS08

Signal word Danger

Hazard-determining components of labelling:

tricarbonyl(methylcyclopentadienyl)manganese

toluene

1,2,4-trimethylbenzene

ferrocene

Hazard statements

H225 Highly flammable liquid and vapour.

H301+H311 Toxic if swallowed or in contact with skin.

H330 Fatal if inhaled.

H315 Causes skin irritation.

H361d Suspected of damaging the unborn child.

H336 May cause drowsiness or dizziness.

H373 May cause damage to organs through prolonged or repeated exposure.

H304 May be fatal if swallowed and enters airways.

H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P103 Read label before use.

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P320 Specific treatment is urgent (see on this label).

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

3.2 Chemical characterisation: Mixtures

Description: Mixture of substances listed below with nonhazardous additions.

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GB

Trade name: HFA 2071

(Contd. of page 2)

Dangerous components:

CAS: 12108-13-3 EINECS: 235-166-5 Reg.nr.: 01-2119495971-23	tricarbonyl(methylcyclopentadienyl)manganese ⚠ Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 1, H330	30 - 40%
CAS: 108-88-3 EINECS: 203-625-9 Reg.nr.: 01-2119471310-51	toluene ⚠ Flam. Liq. 2, H225; ⚠ Repr. 2, H361d; STOT RE 2, H373; Asp. Tox. 1, H304; ⚠ Skin Irrit. 2, H315; STOT SE 3, H336	30 - 40%
CAS: 95-63-6 EINECS: 202-436-9 Reg.nr.: 05-2117202756-46	1,2,4-trimethylbenzene ⚠ Flam. Liq. 3, H226; ⚠ Aquatic Chronic 2, H411; ⚠ Acute Tox. 4, H332; ⚠ Skin Irrit. 2, H315; ⚠ Eye Irrit. 2, H319; STOT SE 3, H335	5 - 10%
CAS: 64742-47-8 EINECS: 265-149-8 Reg.nr.: 01-2119484819-18	Distillates (petroleum), hydrotreated light ⚠ Flam. Liq. 3, H226; ⚠ Asp. Tox. 1, H304	5 - 10%
CAS: 102-54-5 EINECS: 203-039-3 Reg.nr.: 01-2119978280-34	ferrocene ⚠ Flam. Sol. 1, H228; ⚠ Aquatic Chronic 2, H411; ⚠ Acute Tox. 4, H302	3 - 5%
CAS: 108-67-8 EINECS: 203-604-4 Reg.nr.: 01-2119463878-19	mesitylene ⚠ Flam. Liq. 3, H226; ⚠ Aquatic Chronic 2, H411; ⚠ STOT SE 3, H335	1.5 - 3%
CAS: 103-65-1 EINECS: 203-132-9	propylbenzene ⚠ Flam. Liq. 3, H226; ⚠ Asp. Tox. 1, H304; ⚠ Aquatic Chronic 2, H411; ⚠ STOT SE 3, H335	1.5 - 3%
CAS: 1330-20-7 EINECS: 215-535-7 Reg.nr.: 01-2119488216-32	xylene ⚠ Flam. Liq. 3, H226; ⚠ Acute Tox. 4, H312; Acute Tox. 4, H332; ⚠ Skin Irrit. 2, H315	1.5 - 3%
CAS: 98-82-8 EINECS: 202-704-5	cumene ⚠ Flam. Liq. 3, H226; ⚠ Asp. Tox. 1, H304; ⚠ Aquatic Chronic 2, H411; ⚠ STOT SE 3, H335	1 - 2%

Additional information: For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures
General information:

Immediately remove any clothing soiled by the product.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

Remove breathing equipment only after contaminated clothing have been completely removed.

In case of irregular breathing or respiratory arrest provide artificial respiration.

After inhalation:

Supply fresh air or oxygen; call for doctor.

In case of unconsciousness place patient stably in side position for transportation.

After skin contact: Immediately wash with water and soap and rinse thoroughly.

After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.

After swallowing: Do not induce vomiting; call for medical help immediately.

4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing agents: CO₂, sand, extinguishing powder. Do not use water.

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GB

Trade name: HFA 2071

(Contd. of page 3)

· **For safety reasons unsuitable extinguishing agents:** Water with full jet

· **5.2 Special hazards arising from the substance or mixture**

No further relevant information available.

· **5.3 Advice for firefighters**

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from the fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

· **Protective equipment:**

Wear impervious clothing and self contained breathing apparatus. Use water to keep fire-exposed containers cool. If a leak or spill has not ignited use water spray to disperse the vapours and to provide protection for personnel attempting to stop a leak. Take care not to spread the fire with water. Contain fire-fighting water to prevent ingress to watercourses as it will cause oil pollution.

SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

· **6.2 Environmental precautions:**

Do not allow product to reach sewage system or any water course.

Inform respective authorities in case of seepage into water course or sewage system.

Do not allow to enter sewers/ surface or ground water.

· **6.3 Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Do not flush with water or aqueous cleansing agents

· **6.4 Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

Prevent formation of aerosols.

· **Information about fire - and explosion protection:**

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

Keep respiratory protective device available.

· **7.2 Conditions for safe storage, including any incompatibilities**

· **Storage:**

· **Requirements to be met by storerooms and receptacles:**

Protect container from direct sunlight in a dry, cool and wellventilated area, away from incompatible materials and food and drink.

Store in a cool location.

· **Information about storage in one common storage facility:** Not required.

· **Further information about storage conditions:**

Keep container tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

· **7.3 Specific end use(s)** No further relevant information available.

GB

(Contd. on page 5)

Trade name: HFA 2071

(Contd. of page 4)

SECTION 8: Exposure controls/personal protection

· **Additional information about design of technical facilities:** No further data; see item 7.

· 8.1 Control parameters

· **Ingredients with limit values that require monitoring at the workplace:**

108-88-3 toluene

WEL	Short-term value: 384 mg/m ³ , 100 ppm Long-term value: 191 mg/m ³ , 50 ppm Sk
-----	--

95-63-6 1,2,4-trimethylbenzene

WEL	Long-term value: 125 mg/m ³ , 25 ppm ILV
-----	--

108-67-8 mesitylene

WEL	Long-term value: 125 mg/m ³ , 25 ppm ILV
-----	--

1330-20-7 xylene

WEL	Short-term value: 441 mg/m ³ , 100 ppm Long-term value: 220 mg/m ³ , 50 ppm Sk; BMGV
-----	--

98-82-8 cumene

WEL	Short-term value: 250 mg/m ³ , 50 ppm Long-term value: 125 mg/m ³ , 25 ppm Sk
-----	---

· **Ingredients with biological limit values:**

1330-20-7 xylene

BMGV	650 mmol/mol creatinine Medium: urine Sampling time: post shift Parameter: methyl hippuric acid
------	--

· **Additional information:** The lists valid during the making were used as basis.

· 8.2 Exposure controls

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Store protective clothing separately.
Avoid contact with the skin.
Avoid contact with the eyes and skin.

· **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the

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GB

Trade name: HFA 2071

(Contd. of page 5)

resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **For the permanent contact gloves made of the following materials are suitable:**

Fluorocarbon rubber (Viton)

Nitrile rubber, NBR

· **Eye protection:**



Tightly sealed goggles

· **Body protection:** Protective work clothing

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form:

Liquid

Colour:

Brown

· **Odour:**

Petroleum hydrocarbon odour

· **Odour threshold:**

Not determined.

· **pH-value:**

Not determined.

· **Change in condition**

Melting point/Melting range:

Undetermined.

Boiling point/Boiling range:

110 °C

· **Flash point:**

11 °C

· **Flammability (solid, gaseous):**

Not applicable.

· **Ignition temperature:**

210 °C

· **Decomposition temperature:**

Not determined.

· **Self-igniting:**

Product is not selfigniting.

· **Danger of explosion:**

Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

· **Explosion limits:**

Lower:

1.2 Vol %

Upper:

7.0 Vol %

· **Vapour pressure at 20 °C:**

29 hPa

· **Density at 15 °C:**

0.99 - 1.2 g/cm³

· **Relative density**

Not determined.

· **Vapour density**

Not determined.

· **Evaporation rate**

Not determined.

· **Solubility in / Miscibility with water:**

Not miscible or difficult to mix.

· **Partition coefficient (n-octanol/water):** Not determined.

(Contd. on page 7)

GB

Trade name: HFA 2071

(Contd. of page 6)

- **Viscosity:**
 - Dynamic:** Not determined.
 - Kinematic:** Not determined.
- **9.2 Other information** No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** Contact with direct sunlight and sources of heat.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity**
Toxic if swallowed or in contact with skin.
Fatal if inhaled.

- **LD/LC50 values relevant for classification:**

108-88-3 toluene

Oral	LD50	5000 mg/kg (rat)
Dermal	LD50	12124 mg/kg (rabbit)
Inhalative	LC50/4 h	5320 mg/l (mouse)

95-63-6 1,2,4-trimethylbenzene

Oral	LD50	5000 mg/kg (rat)
------	------	------------------

102-54-5 ferrocene

Oral	LD50	1320 mg/kg (rat)
------	------	------------------

103-65-1 propylbenzene

Oral	LD50	6040 mg/kg (rat)
------	------	------------------

98-82-8 cumene

Oral	LD50	1400 mg/kg (rat)
Dermal	LD50	12300 mg/kg (rabbit)
Inhalative	LC50/4 h	24.7 mg/l (mouse)

- **Primary irritant effect:**
- **Skin corrosion/irritation**
Causes skin irritation.
- **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity**
Suspected of damaging the unborn child.
- **STOT-single exposure**
May cause drowsiness or dizziness.

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GB

Trade name: HFA 2071

(Contd. of page 7)

- **STOT-repeated exposure**
May cause damage to organs through prolonged or repeated exposure.
- **Aspiration hazard**
May be fatal if swallowed and enters airways.



SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Harmful to fish
- **Additional ecological information:**
- **General notes:**
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
Harmful to aquatic organisms
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

SECTION 14: Transport information





- | | |
|---|---|
| 14.1 UN-Number | UN1992 |
| ADR, IMDG, IATA | |
| 14.2 UN proper shipping name | |
| ADR | 1992 FLAMMABLE LIQUID, TOXIC, N.O.S. (TOLUENE, tricarbonyl(methylcyclopentadienyl)manganese), toxic by inhalation |
| IMDG, IATA | FLAMMABLE LIQUID, TOXIC, N.O.S. (TOLUENE, tricarbonyl(methylcyclopentadienyl)manganese) |
| 14.3 Transport hazard class(es) | |
| ADR | |
|   | |
| Class | 3 (6.1) Flammable liquids. |

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Trade name: HFA 2071

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· Label	3 + 6.1
· IMDG	
 	
· Class	3 Flammable liquids.
· Label	3/6.1
· IATA	
 	
· Class	3 Flammable liquids.
· Label	3 (6.1)
· 14.4 Packing group	
· ADR, IMDG, IATA	II
· 14.5 Environmental hazards:	Not applicable.
· 14.6 Special precautions for user	Warning: Flammable liquids.
· Danger code (Kemler):	36
· EMS Number:	F-E,S-D
· Stowage Category	B
· Stowage Code	SW2 Clear of living quarters.
· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	100 ml
· Excepted quantities (EQ)	Code: E4 Maximum net quantity per inner packaging: 1 ml Maximum net quantity per outer packaging: 500 ml
· Transport category	2
· Tunnel restriction code	D/E
· IMDG	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· UN "Model Regulation":	UN 1992 FLAMMABLE LIQUID , TOXIC, N.O.S. (T O L U E N E , TRICARBONYL (METHYLCYCLOPENTADIENYL) MANGANESE), 3 (6.1), II

GB

(Contd. on page 10)

Trade name: HFA 2071

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SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **Seveso category**
H1 ACUTE TOXIC
P5c FLAMMABLE LIQUIDS
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 5 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 20 t
- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3, 48
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant phrases**
H225 Highly flammable liquid and vapour.
H226 Flammable liquid and vapour.
H228 Flammable solid.
H301 Toxic if swallowed.
H302 Harmful if swallowed.
H304 May be fatal if swallowed and enters airways.
H311 Toxic in contact with skin.
H312 Harmful in contact with skin.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H330 Fatal if inhaled.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
H361d Suspected of damaging the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure.
H411 Toxic to aquatic life with long lasting effects.
- **Department issuing SDS:** Product safety department
- **Contact:** Mr. G.C. Spruijt
- **Abbreviations and acronyms:**
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Flam. Liq. 2: Flammable liquids – Category 2
Flam. Liq. 3: Flammable liquids – Category 3
Flam. Sol. 1: Flammable solids – Category 1
Acute Tox. 3: Acute toxicity – Category 3
Acute Tox. 1: Acute toxicity – Category 1
Acute Tox. 4: Acute toxicity – Category 4
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
Repr. 2: Reproductive toxicity – Category 2
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2
Asp. Tox. 1: Aspiration hazard – Category 1

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GB

Safety data sheet
according to 453/2010/EC

Printing date 03.08.2016

Version number 1

Revision: 03.08.2016

Trade name: HFA 2071

Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2
Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

(Contd. of page 10)

GB

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name: **HFA 2072**

1.2 Relevant identified uses of the substance or mixture and uses advised against
RON / MON Improver

Sector of Use SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites

Product category PC13 Fuels

Application of the substance / the mixture Additive

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

WRT B.V.

Strawinskylaan 3067

1077ZX Amsterdam

The Netherlands

Tel.: 00-31-(0)20-644 2831

Fax.: 00-31-(0)20-642 3962

info@wrtbv.com

Further information obtainable from:

Product Safety Department

Tel.: 00-31-(0)-644 2831

info@wrtbv.com

Support is only given in the following languages: Dutch, English and German

1.4 Emergency telephone number:

Product Safety department

In case of a spill or accident, you can contact us at:

Tel.: 00-31-(0)20-644 2831

During office hours we can be contacted for general information at

Tel.: 00-31-(0)20-6442831

Support is only given in the following languages: Dutch, English, and German

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008



GHS06 skull and crossbones

Acute Tox. 3

H301 Toxic if swallowed.

Acute Tox. 3

H311 Toxic in contact with skin.

Acute Tox. 1

H330 Fatal if inhaled.



GHS08 health hazard

Asp. Tox. 1

H304 May be fatal if swallowed and enters airways.



GHS07

Skin Irrit. 2

H315 Causes skin irritation.

Eye Irrit. 2

H319 Causes serious eye irritation.

Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC



T+; Very toxic

R26: Very toxic by inhalation.

(Contd. on page 2)

GB

Trade name: HFA 2072

(Contd. of page 1)



T; Toxic

R24/25: Toxic in contact with skin and if swallowed.



Xn; Harmful

R65: Harmful: may cause lung damage if swallowed.



Xi; Irritant

R37: Irritating to respiratory system.

R52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Information concerning particular hazards for human and environment:

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

Classification system:

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the CLP regulation.

Hazard pictograms



GHS06 GHS08

Signal word Danger

Hazard-determining components of labelling:

tricarbonyl(methylcyclopentadienyl)manganese

Distillates (petroleum), hydrotreated light

1,2,4-trimethylbenzene

xylene

Hazard statements

H301 Toxic if swallowed.

H311 Toxic in contact with skin.

H330 Fatal if inhaled.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H304 May be fatal if swallowed and enters airways.

H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P103 Read label before use.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER or doctor/physician.

P320 Specific treatment is urgent (see on this label).

P361 Remove/Take off immediately all contaminated clothing.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

(Contd. on page 3)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 28.05.2014

Version number 7

Revision: 28.05.2014

Trade name: HFA 2072

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· **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

· **3.2 Chemical characterization: Mixtures**

· **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**

CAS: 12108-13-3 EINECS: 235-166-5 Reg.nr.: 01-2119495971-23	tricarbonyl(methylcyclopentadienyl)manganese T+ R26; T R24/25 Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 1, H330	50 - 75%
CAS: 95-63-6 EINECS: 202-436-9 Reg.nr.: 05-2117202756-46	1,2,4-trimethylbenzene Xn R20; Xi R36/37/38; N R51/53 R10 Flam. Liq. 3, H226; Aquatic Chronic 2, H411; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	10 - 15%
CAS: 64742-47-8 EINECS: 265-149-8 Reg.nr.: 01-2119484819-18	Distillates (petroleum), hydrotreated light Xn R65 Flam. Liq. 3, H226; Asp. Tox. 1, H304	10 - 15%
CAS: 108-67-8 EINECS: 203-604-4	mesitylene Xi R37; N R51/53 R10 Flam. Liq. 3, H226; Aquatic Chronic 2, H411; STOT SE 3, H335	1 - 5%
CAS: 103-65-1 EINECS: 203-132-9	propylbenzene Xn R65; Xi R37; N R51/53 R10 Flam. Liq. 3, H226; Asp. Tox. 1, H304; Aquatic Chronic 2, H411; STOT SE 3, H335	1 - 5%
CAS: 1330-20-7 EINECS: 215-535-7 Reg.nr.: 01-2119488216-32	xylene Xn R20/21; Xi R38 R10 Flam. Liq. 3, H226; Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315	1 - 5%
CAS: 98-82-8 EINECS: 202-704-5	cumene Xn R65; Xi R37; N R51/53 R10 Flam. Liq. 3, H226; Asp. Tox. 1, H304; Aquatic Chronic 2, H411; STOT SE 3, H335	1 - 5%

· **Additional information:** For the wording of the listed risk phrases refer to section 16.

SECTION 4: First aid measures

· **4.1 Description of first aid measures**

· **General information:**

Immediately remove any clothing soiled by the product.

Remove breathing equipment only after contaminated clothing have been completely removed.

In case of irregular breathing or respiratory arrest provide artificial respiration.

· **After inhalation:**

Seek immediate medical advice.

Use a respiratory bag or breathing device.

Supply fresh air or oxygen; call for doctor.

In case of unconsciousness place patient stably in side position for transportation.

· **After skin contact:** Immediately wash with water and soap and rinse thoroughly.

· **After eye contact:**

Check for and remove any contact lenses

Rinse opened eye for several minutes under running water. Then consult a doctor.

· **After swallowing:**

If material has been swallowed and the exposed person is conscious, give small quantities of water to drink.

Stop if the exposed persons feels sick as vomiting may be dangerous. Do not induce vomiting unless directed

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Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 28.05.2014

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(Contd. of page 3)

to do so by medical personnel. If vomiting occurs, the head should be kept low so that the vomit does not enter the lungs. Get medical attention if adverse health persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. Do not induce vomiting; call for medical help immediately.

· **4.2 Most important symptoms and effects, both acute and delayed**

No further relevant information available.

· **4.3 Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

SECTION 5: Firefighting measures

· **5.1 Extinguishing media**

· **Suitable extinguishing agents:**

CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· **5.2 Special hazards arising from the substance or mixture**

In case of fire, the following can be released:

Carbon monoxide (CO)

Carbon dioxide (CO₂)

Metal oxide/oxides

· **5.3 Advice for firefighters**

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from the fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

· **Protective equipment:**

Wear fully protective suit.

Wear self-contained respiratory protective device.

Mouth respiratory protective device.

SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation

Keep away from ignition sources.

Avoid contact with spilled material. Do not touch or walk through spilled material.

Use respiratory protective device against the effects of fumes/dust/aerosol.

· **6.2 Environmental precautions:**

Do not allow product to reach sewage system or any water course.

Inform respective authorities in case of seepage into water course or sewage system.

Dilute with plenty of water.

Do not allow to enter sewers/ surface or ground water.

· **6.3 Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

· **6.4 Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

Prevent formation of aerosols.

· **Information about fire - and explosion protection:** Keep respiratory protective device available.

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- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Store only in the original receptacle.
Due to photo-sensitivity, store product in brown-glass or stainless steel receptacles.
- **Information about storage in one common storage facility:**
Store away from oxidizing agents.
- **Further information about storage conditions:** Keep container tightly sealed.
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.

· 8.1 Control parameters

- **Ingredients with limit values that require monitoring at the workplace:**

95-63-6 1,2,4-trimethylbenzene

WEL	Long-term value: 125 mg/m ³ , 25 ppm
	ILV

108-67-8 mesitylene

WEL	Long-term value: 125 mg/m ³ , 25 ppm
	ILV

1330-20-7 xylene

WEL	Short-term value: 441 mg/m ³ , 100 ppm
	Long-term value: 220 mg/m ³ , 50 ppm
	Sk; BMGV

98-82-8 cumene

WEL	Short-term value: 250 mg/m ³ , 50 ppm
	Long-term value: 125 mg/m ³ , 25 ppm
	Sk

- **Ingredients with biological limit values:**

1330-20-7 xylene

BMGV	650 mmol/mol creatinine
	Medium: urine
	Sampling time: post shift
	Parameter: methyl hippuric acid

- **Additional information:** The lists valid during the making were used as basis.

· 8.2 Exposure controls

- **Personal protective equipment:**

- **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Store protective clothing separately.
Avoid contact with the eyes and skin.

- **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

(Contd. on page 6)

Trade name: HFA 2072

(Contd. of page 5)

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:** Goggles recommended during refilling

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form:	Liquid
Colour:	Orange
Odour:	Petroleum hydrocarbon odour
Odour threshold:	Not determined.

· **pH-value:** Not applicable.

· **Change in condition**

Boiling point/Boiling range:	150 °C
Pour point	< minus 30 °C

· **Flash point:** 61 °C

· **Flammability (solid, gaseous):** Not applicable.

· **Ignition temperature:** 210 °C

· **Decomposition temperature:** Not applicable

· **Self-igniting:** Product is not selfigniting.

· **Danger of explosion:** Product does not present an explosion hazard.

· **Explosion limits:**

Lower:	0.5 Vol %
Upper:	7.0 Vol %

· **Vapour pressure at 20 °C:** 2 hPa

Density at 20 °C:	1.11 g/cm ³
Relative density	Not determined.
Vapour density	Not determined.
Evaporation rate	Not determined.

· **Solubility in / Miscibility with water:**

Insoluble in the following materials: cold water, hot water.

· **Partition coefficient (n-octanol/water):** Not determined.

· **Viscosity:**

Dynamic at 20 °C:	5 mPas
Kinematic at 40 °C:	< 7 cSt

· **9.2 Other information**

No further relevant information available.

Trade name: HFA 2072

(Contd. of page 6)

SECTION 10: Stability and reactivity

- **10.1 Reactivity**
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** Sources of ignition (open flames, warm surfaces, sparks).
- **10.5 Incompatible materials:** Strong oxidizing agents
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity:**

- **LD/LC50 values relevant for classification:**

95-63-6 1,2,4-trimethylbenzene

Oral	LD50	5000 mg/kg (rat)
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103-65-1 propylbenzene

Oral	LD50	6040 mg/kg (rat)
------	------	------------------

98-82-8 cumene

Oral	LD50	1400 mg/kg (rat)
Dermal	LD50	12300 mg/kg (rabbit)
Inhalative	LC50/4 h	24.7 mg/l (mouse)

- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Toxic
Irritant
Very toxic

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Harmful to fish
- **Additional ecological information:**
- **General notes:**
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
Harmful to aquatic organisms
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

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Trade name: HFA 2072


(Contd. of page 7)

- **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

SECTION 14: Transport information

- **14.1 UN-Number**
- **ADR, IMDG, IATA** UN3281
- **14.2 UN proper shipping name**
- **ADR** 3281 METAL CARBONYLS, LIQUID, N.O.S. (tricarbonyl(methylcyclopentadienyl)manganese, XYLENES)
- **IMDG** METAL CARBONYLS, LIQUID, N.O.S. (tricarbonyl(methylcyclopentadienyl)manganese, XYLENES), MARINE POLLUTANT
- **IATA** METAL CARBONYLS, LIQUID, N.O.S. (tricarbonyl(methylcyclopentadienyl)manganese, XYLENES)
- **14.3 Transport hazard class(es)**
- **ADR, IMDG**
-  
- **Class** 6.1 Toxic substances.
- **Label** 6.1
- **IATA**
- 
- **Class** 6.1 Toxic substances.
- **Label** 6.1
- **14.4 Packing group**
- **ADR, IMDG, IATA** III
- **14.5 Environmental hazards:**
- **Marine pollutant:** Yes
Symbol (fish and tree)
- **Special marking (ADR):** Symbol (fish and tree)
- **14.6 Special precautions for user** Warning: Toxic substances.
- **Danger code (Kemler):** 60

(Contd. on page 9)

Trade name: HFA 2072

(Contd. of page 8)

· EMS Number:	F-E,S-D
· 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	5L
· Transport category	2
· Tunnel restriction code	D/E
· UN "Model Regulation":	UN3281, METAL CARBONYLS, LIQUID, N.O.S. (tricarbonyl(methylcyclopentadienyl)manganese, XYLENES), 6.1, III

SECTION 15: Regulatory information

- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant phrases**

H226	Flammable liquid and vapour.
H301	Toxic if swallowed.
H304	May be fatal if swallowed and enters airways.
H311	Toxic in contact with skin.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H411	Toxic to aquatic life with long lasting effects.
R10	Flammable.
R20	Harmful by inhalation.
R20/21	Harmful by inhalation and in contact with skin.
R24/25	Toxic in contact with skin and if swallowed.
R26	Very toxic by inhalation.
R36/37/38	Irritating to eyes, respiratory system and skin.
R37	Irritating to respiratory system.
R38	Irritating to skin.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R65	Harmful: may cause lung damage if swallowed.

- **Department issuing MSDS:** Product safety department

- **Contact:** Mr. G.C. Spruijt

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
 IMDG: International Maritime Code for Dangerous Goods
 IATA: International Air Transport Association
 GHS: Globally Harmonized System of Classification and Labelling of Chemicals
 EINECS: European Inventory of Existing Commercial Chemical Substances
 ELINCS: European List of Notified Chemical Substances
 CAS: Chemical Abstracts Service (division of the American Chemical Society)
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent

- *** Data compared to the previous version altered.** Sections added

1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
- **Trade name:** *HFA 2077*
- **Relevant identified uses of the substance or mixture and uses advised against**
- **Sector of Use** *Oil Industry*
- **Application of the substance / the preparation** *RON/Mon Improver*
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
WRT B.V.
Strawinskylaan 3067
1077ZX Amsterdam
The Netherlands
Tel.: 00-31-(0)20-644 2831
Fax.: 00-31-(0)20-642 3962
info@wrtbv.com
- **Further information obtainable from:**
Product Safety Department
Tel.: 00-31-(0)-644 2831
info@wrtbv.com
Support is only given in the following languages: Dutch, English and German
- **Emergency telephone number:**
Product Safety department
In case of a spill or accident, you can contact us at:
Tel.: 00-31-(0)20-644 2831
During office hours we can be contacted for general information at
Tel.: 00-31-(0)20-6442831
Support is only given in the following languages: Dutch, English, and German

2 Hazards identification

- **Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS02 flame

Flam. Liq. 2 H225 Highly flammable liquid and vapour.



GHS06 skull and crossbones

Acute Tox. 2 H330 Fatal if inhaled.



GHS08 health hazard

Repr. 2 H361d Suspected of damaging the unborn child.

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.

Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Skin Irrit. 2 H315 Causes skin irritation.

STOT SE 3 H336 May cause drowsiness or dizziness.

(Contd. on page 2)

Trade name: HFA 2077

(Contd. of page 1)

· **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



T; Toxic

R23:

Toxic by inhalation.



Xn; Harmful

R21/22-48/20-63-65:

Harmful in contact with skin and if swallowed. Harmful: danger of serious damage to health by prolonged exposure through inhalation. Possible risk of harm to the unborn child. Harmful: may cause lung damage if swallowed.



Xi; Irritant

R38:

Irritating to skin.



F+; Highly flammable

R11:

Highly flammable.

· **Information concerning particular hazards for human and environment:**

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

· **Classification system:**

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

· **Label elements**

· **Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the CLP regulation.

· **Hazard pictograms**



GHS02



GHS06



GHS08

· **Signal word** Danger

· **Hazard-determining components of labelling:**

toluene

tricarbonyl(methylcyclopentadienyl)manganese

ferrocene

· **Hazard statements**

H225 Highly flammable liquid and vapour.

H302 Harmful if swallowed.

H330 Fatal if inhaled.

H315 Causes skin irritation.

H361d Suspected of damaging the unborn child.

H336 May cause drowsiness or dizziness.

H373 May cause damage to organs through prolonged or repeated exposure.

H304 May be fatal if swallowed and enters airways.

· **Precautionary statements**

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P103 Read label before use.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P310 Immediately call a POISON CENTER or doctor/physician.

P320 Specific treatment is urgent (see on this label).

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

(Contd. on page 3)

Trade name: HFA 2077

(Contd. of page 2)

- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Mixture of substances listed below with nonhazardous additions.

- **Dangerous components:**

CAS: 108-88-3 EINECS: 203-625-9	toluene Xn R48/20-63-65; Xi R38; F R11 R67 Repr. Cat. 3 Flam. Liq. 2, H225; Repr. 2, H361d; STOT RE 2, H373; Asp. Tox. 1, H304; Skin Irrit. 2, H315; STOT SE 3, H336	65 - 85%
CAS: 102-54-5 EINECS: 203-039-3	ferrocene Xn R22 Acute Tox. 4, H302	5 - 15%
CAS: 12108-13-3 EINECS: 235-166-5	tricarbonyl(methylcyclopentadienyl)manganese T+ R26; T R24/25 Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 1, H330	5 - 10%
CAS: 95-63-6 EINECS: 202-436-9	1,2,4-trimethylbenzene Xn R20; Xi R36/37/38; N R51/53 R10 Flam. Liq. 3, H226; Aquatic Chronic 2, H411; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	0.25 - 1.5%
CAS: 64742-47-8 EINECS: 265-149-8	Distillates (petroleum), hydrotreated light Xn R65 Flam. Liq. 3, H226; Asp. Tox. 1, H304	0.25 - 1.5%
CAS: 108-67-8 EINECS: 203-604-4	mesitylene Xi R37; N R51/53 R10 Flam. Liq. 3, H226; Aquatic Chronic 2, H411; STOT SE 3, H335	0.25 - 1%
CAS: 103-65-1 EINECS: 203-132-9	propylbenzene Xn R65; Xi R37; N R51/53 R10 Flam. Liq. 3, H226; Asp. Tox. 1, H304; Aquatic Chronic 2, H411; STOT SE 3, H335	0.25 - 1%
CAS: 98-82-8 EINECS: 202-704-5	cumene Xn R65; Xi R37; N R51/53 R10 Flam. Liq. 3, H226; Asp. Tox. 1, H304; Aquatic Chronic 2, H411; STOT SE 3, H335	0.25 - 1%

- **Additional information:** For the wording of the listed risk phrases refer to section 16.

4 First aid measures

- **Description of first aid measures**
- **General information:**
Immediately remove any clothing soiled by the product.
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
Remove breathing equipment only after contaminated clothing have been completely removed.
In case of irregular breathing or respiratory arrest provide artificial respiration.
- **After inhalation:**
Supply fresh air or oxygen; call for doctor.
In case of unconsciousness place patient stably in side position for transportation.

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- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:** Call for a doctor immediately.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed**
No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** CO₂, sand, extinguishing powder. Do not use water.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture**
No further relevant information available.
- **Advice for firefighters**
Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from the fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
- **Protective equipment:** Mouth respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
Do not allow product to reach sewage system or any water course.
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
Do not flush with water or aqueous cleansing agents
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Prevent formation of aerosols.
Keep away from heat and direct sunlight.
- **Information about fire - and explosion protection:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Store in a cool location.

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Due to photo-sensitivity, store product in brown-glass or stainless steel receptacles.

- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Keep container tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.

· Control parameters

· **Ingredients with limit values that require monitoring at the workplace:**

108-88-3 toluene

WEL	Short-term value: 384 mg/m ³ , 100 ppm
	Long-term value: 191 mg/m ³ , 50 ppm
Sk	

95-63-6 1,2,4-trimethylbenzene

WEL	Long-term value: 125 mg/m ³ , 25 ppm
ILV	

- **Additional information:** The lists valid during the making were used as basis.

· Exposure controls

· Personal protective equipment:

· General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Store protective clothing separately.
Avoid contact with the skin.
Avoid contact with the eyes and skin.

· Respiratory protection:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

· Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

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· **Eye protection:**

Tightly sealed goggles

9 Physical and chemical properties

· **Information on basic physical and chemical properties**· **General Information**· **Appearance:****Form:**

Fluid

Colour:

According to product specification

· **Odour:**

Petroleum hydrocarbon odour

· **Odour threshold:**

Not determined.

· **pH-value:**

Not determined.

· **Change in condition****Melting point/Melting range:**

Undetermined.

Boiling point/Boiling range:

110 °C

· **Pour point**

< minus 33 °C

· **Flash point:**

13.5 °C

· **Flammability (solid, gaseous):**

Not applicable.

· **Ignition temperature:**

535 °C

· **Decomposition temperature:**

Not determined.

· **Self-igniting:**

Product is not selfigniting.

· **Danger of explosion:**

Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

· **Explosion limits:****Lower:**

1.2 Vol %

Upper:

7.0 Vol %

· **Vapour pressure at 20 °C:**

29 hPa

· **Density at 15 °C:**0.93 - 0.95 g/cm³· **Relative density**

Not determined.

· **Vapour density**

Not determined.

· **Evaporation rate**

Not determined.

· **Solubility in / Miscibility with water:**

Not miscible or difficult to mix.

· **Partition coefficient (n-octanol/water):** Not determined.· **Viscosity:****Dynamic at 40 °C:**0.52 mm²/s**Kinematic:**

Not determined.

· **Other information**

No further relevant information available.

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Trade name: HFA 2077

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10 Stability and reactivity

- **Reactivity**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· **LD/LC50 values relevant for classification:**

108-88-3 toluene

Oral	LD50	5000 mg/kg (rat)
Dermal	LD50	12124 mg/kg (rabbit)
Inhalative	LC50/4 h	5320 mg/l (mouse)

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Toxic
Harmful
Irritant

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

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13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

· UN-Number	
· ADR, IMDG, IATA	UN1992
· UN proper shipping name	
· ADR	1992 FLAMMABLE LIQUID, TOXIC, N.O.S. (TOLUENE, tricarbonyl(methylcyclopentadienyl)manganese)
· IMDG, IATA	FLAMMABLE LIQUID, TOXIC, N.O.S. (TOLUENE, tricarbonyl(methylcyclopentadienyl)manganese)
· Transport hazard class(es)	
· ADR, IMDG, IATA	
 	
· Class	3 Flammable liquids.
· Label	3+6.1
· Packing group	
· ADR, IMDG, IATA	II
· Environmental hazards:	
· Marine pollutant:	No
· Special precautions for user	Warning: Flammable liquids.
· Danger code (Kemler):	336
· EMS Number:	F-E,S-D
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	1L
· Transport category	2
· Tunnel restriction code	D/E
· UN "Model Regulation":	UN1992, FLAMMABLE LIQUID, TOXIC, N.O.S. (TOLUENE, tricarbonyl(methylcyclopentadienyl)manganese), 3 (6.1), II

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15 Regulatory information

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant phrases**

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H311	Toxic in contact with skin.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H361d	Suspected of damaging the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.
R10	Flammable.
R11	Highly flammable.
R20	Harmful by inhalation.
R22	Harmful if swallowed.
R24/25	Toxic in contact with skin and if swallowed.
R26	Very toxic by inhalation.
R36/37/38	Irritating to eyes, respiratory system and skin.
R37	Irritating to respiratory system.
R38	Irritating to skin.
R48/20	Harmful: danger of serious damage to health by prolonged exposure through inhalation.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R63	Possible risk of harm to the unborn child.
R65	Harmful: may cause lung damage if swallowed.
R67	Vapours may cause drowsiness and dizziness.

- **Department issuing MSDS:** Product safety department

- **Contact:** Mr. G.C. Spruijt

- **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
 IMDG: International Maritime Code for Dangerous Goods
 IATA: International Air Transport Association
 GHS: Globally Harmonized System of Classification and Labelling of Chemicals
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name: **HFA 4066**

1.2 Relevant identified uses of the substance or mixture and uses advised against
CFPP Improver for gasoil/diesel

Sector of Use SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites

Product category PC13 Fuels

Application of the substance / the mixture

Additive

CFPP Improver

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

WRT B.V.
Strawinskylaan 3067
NL-1077 ZX Amsterdam
THE NETHERLANDS
info@wrtbv.com

Further information obtainable from:

Product Safety Department

Tel.: 00-31-(0)-644 2831

info@wrtbv.com

Support is only given in the following languages: Dutch, English and German

1.4 Emergency telephone number:

Product Safety department

In case of a spill or accident, you can contact us at:

Tel.: 00-31-(0)20-644 2831

During office hours we can be contacted for general information at

Tel.: 00-31-(0)20-6442831

Support is only given in the following languages: Dutch, English, and German

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008



GHS02 flame

Flam. Liq. 3 H226 Flammable liquid and vapour.



GHS08 health hazard

Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC



Xn; Harmful

R65: Harmful: may cause lung damage if swallowed.

R10: Flammable.

Information concerning particular hazards for human and environment:

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

Classification system:

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

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Trade name: HFA 4066

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- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms**






- **Signal word** *Danger*
- **Hazard-determining components of labelling:**
Kerosine (petroleum)
- **Hazard statements**
H226 Flammable liquid and vapour.
H304 May be fatal if swallowed and enters airways.
- **Precautionary statements**
P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P103 Read label before use.
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P241 Use explosion-proof electrical/ventilating/lighting/equipment.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

- **3.2 Chemical characterisation: Mixtures**
- **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**

CAS: 8008-20-6	Kerosine (petroleum)	40 - 65%
EINECS: 232-366-4	 Xn R65	
Reg.nr.: 01-2119485517-27	 Flam. Liq. 3, H226;  Asp. Tox. 1, H304	

- **Additional information:** For the wording of the listed risk phrases refer to section 16.

SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** If symptoms persist consult doctor.
- **4.2 Most important symptoms and effects, both acute and delayed**
No further relevant information available.

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- **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:** CO₂, sand, extinguishing powder. Do not use water.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **5.2 Special hazards arising from the substance or mixture**
In case of fire, the following can be released:
Carbon dioxide (CO₂)
Carbon monoxide (CO)
- **5.3 Advice for firefighters**
- **Protective equipment:** No special measures required.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
Do not flush with water or aqueous cleansing agents
- **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
- **Information about fire - and explosion protection:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep container tightly sealed.
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **8.1 Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists valid during the making were used as basis.

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Trade name: HFA 4066

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· **8.2 Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.
Wash hands before breaks and at the end of work.

· **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

· **Protection of hands:**

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **For the permanent contact gloves made of the following materials are suitable:**

Nitrile rubber, NBR
PVC gloves

· **Eye protection:**



Tightly sealed goggles

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form:	Fluid
Colour:	Whitish
Odour:	Aromatic

· pH-value:	Not applicable.
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· **Change in condition**

Melting point/Melting range: Undetermined.

Boiling point/Boiling range: 180 °C

· Pour point	9 °C
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· Flash point:	46 °C
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· Ignition temperature:	270 °C
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· Danger of explosion:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
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· **Explosion limits:**

Lower:	0.6 Vol %
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Upper:	6.0 Vol %
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· Vapour pressure at 20 °C:	2 hPa
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Trade name: HFA 4066

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- | | |
|--|--|
| · Density at 15 °C: | 0.905 - 0.92 g/cm ³ |
| · Solubility in / Miscibility with water: | Not miscible or difficult to mix. |
| · Viscosity: | |
| Dynamic at 20 °C: | 590 - 620 mPas |
| · 9.2 Other information | No further relevant information available. |

SECTION 10: Stability and reactivity

- **10.1 Reactivity**
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid**
High temperature
Sources of ignition
Avoid the build-up of electrostatic charge
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitisation:** No sensitising effects known.
- **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

GB

(Contd. on page 6)

Trade name: HFA 4066

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SECTION 13: Disposal considerations

13.1 Waste treatment methods

Recommendation

Must not be disposed together with household garbage. Do not allow product to reach sewage system. The generation of waste should be avoided or minimised wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of split material and runoff and contact with soil, waterways, drains and sewers.

Uncleaned packaging:

Recommendation:

Disposal must be made according to official regulations. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have been cleaned or rinsed out. Emptied containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of split material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

14.1 UN-Number

ADR, IMDG, IATA 1993

14.2 UN proper shipping name

ADR 1993 FLAMMABLE LIQUID, N.O.S., solution
IMDG, IATA KEROSENE, solution

14.3 Transport hazard class(es)

ADR, IMDG, IATA



Class 3 Flammable liquids.
Label 3

14.4 Packing group

ADR, IMDG, IATA III

14.5 Environmental hazards:

Marine pollutant: No

14.6 Special precautions for user

Danger code (Kemler): Warning: Flammable liquids.

EMS Number: 30

EMS Number: F-E,S-E

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC

Code Not applicable.

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Trade name: HFA 4066

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· **Transport/Additional information:**

· **ADR**

· **Limited quantities (LQ)**

LQ7

· **Transport category**

3

· **Tunnel restriction code**

D/E

· **UN "Model Regulation":**

UN1993, FLAMMABLE LIQUID, N.O.S., solution, 3, III

SECTION 15: Regulatory information

· **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

No further relevant information available.

· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant phrases**

H226 Flammable liquid and vapour.

H304 May be fatal if swallowed and enters airways.

R65 Harmful: may cause lung damage if swallowed.

· **Department issuing MSDS:** Product safety department

· **Contact:** Mr. G.C. Spruijt

· **Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

Flam. Liq. 3: Flammable liquids, Hazard Category 3

Asp. Tox. 1: Aspiration hazard, Hazard Category 1

1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
- **Trade name:** *HFA 4066T*
- **Relevant identified uses of the substance or mixture and uses advised against**
- **Sector of Use** *Oil industry*
- **Application of the substance / the preparation** *CFPP Improver*
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
WRT B.V.
Strawinskylaan 3067
1077ZX Amsterdam
The Netherlands
Tel.: 00-31-(0)20-644 2831
Fax.: 00-31-(0)20-642 3962
info@wrtbv.com
- **Further information obtainable from:**
Product Safety Department
Tel.: 00-31-(0)-644 2831
info@wrtbv.com
Support is only given in the following languages: Dutch, English and German
- **Emergency telephone number:**
Product Safety department
In case of a spill or accident, you can contact us at:
Tel.: 00-31-(0)20-644 2831
During office hours we can be contacted for general information at
Tel.: 00-31-(0)20-6442831
Support is only given in the following languages: Dutch, English, and German

2 Hazards identification

- **Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS02 flame

Flam. Liq. 3 H226 Flammable liquid and vapour.



GHS08 health hazard

Repr. 2 H361d Suspected of damaging the unborn child.

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.

Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

STOT SE 3 H336 May cause drowsiness or dizziness.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



Xn; Harmful

R48/20-63-65: Harmful: danger of serious damage to health by prolonged exposure through inhalation. Possible risk of harm to the unborn child. Harmful: may cause lung damage if swallowed.



Xi; Irritant

(Contd. on page 2)

Trade name: HFA 4066T

(Contd. of page 1)

R38: Irritating to skin.

R10-67: Flammable. Vapours may cause drowsiness and dizziness.

Information concerning particular hazards for human and environment:

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

Classification system:

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

Label elements**Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the CLP regulation.

Hazard pictograms

GHS02 GHS07 GHS08

Signal word Danger**Hazard-determining components of labelling:**

toluene

Hazard statements

H226 Flammable liquid and vapour.

H315 Causes skin irritation.

H361d Suspected of damaging the unborn child.

H336 May cause drowsiness or dizziness.

H373 May cause damage to organs through prolonged or repeated exposure.

H304 May be fatal if swallowed and enters airways.

Precautionary statements

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P103 Read label before use.

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P241 Use explosion-proof electrical/ventilating/lighting/equipment.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards**Results of PBT and vPvB assessment****PBT:** Not applicable.**vPvB:** Not applicable.

3 Composition/information on ingredients

Chemical characterization: Mixtures**Description:** Mixture of substances listed below with nonhazardous additions.**Dangerous components:**

CAS: 108-88-3 EINECS: 203-625-9	toluene Xn R48/20-63-65; Xi R38; F R11 R67 Repr. Cat. 3 Flam. Liq. 2, H225; Repr. 2, H361d; STOT RE 2, H373; Asp. Tox. 1, H304; Skin Irrit. 2, H315; STOT SE 3, H336	25 - 40%
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(Contd. on page 3)

Trade name: HFA 4066T

(Contd. of page 2)

Additional information: For the wording of the listed risk phrases refer to section 16.

4 First aid measures

Description of first aid measures**General information:**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

After inhalation: In case of unconsciousness place patient stably in side position for transportation.

After skin contact: Immediately wash with water and soap and rinse thoroughly.

After eye contact: Rinse opened eye for several minutes under running water.

After swallowing: If symptoms persist consult doctor.

Information for doctor:**Most important symptoms and effects, both acute and delayed**

No further relevant information available.

Indication of any immediate medical attention and special treatment needed

No further relevant information available.

5 Firefighting measures

Extinguishing media

Suitable extinguishing agents: CO₂, sand, extinguishing powder. Do not use water.

For safety reasons unsuitable extinguishing agents: Water with full jet

Special hazards arising from the substance or mixture

No further relevant information available.

Advice for firefighters

Protective equipment: No special measures required.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

Environmental precautions: Do not allow to enter sewers/ surface or ground water.

Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Do not flush with water or aqueous cleansing agents

Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage

Handling:**Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

Information about fire - and explosion protection:

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

(Contd. on page 4)

Trade name: HFA 4066T

(Contd. of page 3)

- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep container tightly sealed.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **Control parameters**

Ingredients with limit values that require monitoring at the workplace:

108-88-3 toluene

WEL	Short-term value: 384 mg/m ³ , 100 ppm
	Long-term value: 191 mg/m ³ , 50 ppm
Sk	

- **Additional information:** The lists valid during the making were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
 - Keep away from foodstuffs, beverages and feed.
 - Immediately remove all soiled and contaminated clothing
 - Wash hands before breaks and at the end of work.
 - Avoid contact with the skin.
 - Avoid contact with the eyes and skin.
- **Respiratory protection:**
 - In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection:



Tightly sealed goggles

GB

(Contd. on page 5)

Trade name: HFA 4066T

(Contd. of page 4)

9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

Form:

Fluid

Colour:

According to product specification

· Odour:

Petroleum hydrocarbon odour

· Odour threshold:

Not determined.

· pH-value:

Not determined.

· Change in condition

Melting point/Melting range:

Undetermined.

Boiling point/Boiling range:

110 °C

· Flash point:

27 °C

· Flammability (solid, gaseous):

Not applicable.

· Ignition temperature:

535 °C

· Decomposition temperature:

Not determined.

· Self-igniting:

Product is not selfigniting.

· Danger of explosion:

Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

· Explosion limits:

Lower:

1.2 Vol %

Upper:

7.0 Vol %

· Vapour pressure at 20 °C:

29 hPa

· Density:

Not determined.

· Relative density

Not determined.

· Vapour density

Not determined.

· Evaporation rate

Not determined.

· Solubility in / Miscibility with water:

Not miscible or difficult to mix.

· Partition coefficient (n-octanol/water):

Not determined.

· Viscosity:

Dynamic:

Not determined.

Kinematic:

Not determined.

· Other information

No further relevant information available.

10 Stability and reactivity

· Reactivity

· Chemical stability

· Thermal decomposition / conditions to be avoided:

No decomposition if used according to specifications.

· Possibility of hazardous reactions

No dangerous reactions known.

· Conditions to avoid

No further relevant information available.

· Incompatible materials:

No further relevant information available.

(Contd. on page 6)

Trade name: HFA 4066T

(Contd. of page 5)

· **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

· **Information on toxicological effects**

· **Acute toxicity:**

· **LD/LC50 values relevant for classification:**

108-88-3 toluene

Oral	LD50	5000 mg/kg (rat)
Dermal	LD50	12124 mg/kg (rabbit)
Inhalative	LC50/4 h	5320 mg/l (mouse)

· **Primary irritant effect:**

· **on the skin:** Irritant to skin and mucous membranes.

· **on the eye:** No irritating effect.

· **Sensitization:** No sensitizing effects known.

· **Additional toxicological information:**

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

Irritant

12 Ecological information

· **Toxicity**

· **Aquatic toxicity:** No further relevant information available.

· **Persistence and degradability** No further relevant information available.

· **Behaviour in environmental systems:**

· **Bioaccumulative potential** No further relevant information available.

· **Mobility in soil** No further relevant information available.

· **Additional ecological information:**

· **General notes:**

Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into the ground.

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **Other adverse effects** No further relevant information available.

13 Disposal considerations

· **Waste treatment methods**

· **Recommendation**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packaging:**

· **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

· **UN-Number**


· **ADR, IMDG, IATA**

UN1993

(Contd. on page 7)

Trade name: HFA 4066T

(Contd. of page 6)

· UN proper shipping name	
· ADR	1993 FLAMMABLE LIQUID, N.O.S. (TOLUENE)
· IMDG, IATA	FLAMMABLE LIQUID, N.O.S. (TOLUENE)
· Transport hazard class(es)	
· ADR, IMDG, IATA	
	
· Class	3 Flammable liquids.
· Label	3
· Packing group	
· ADR, IMDG, IATA	III
· Environmental hazards:	
· Marine pollutant:	No
· Special precautions for user	Warning: Flammable liquids.
· Danger code (Kemler):	30
· EMS Number:	F-E,S-E
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	5L
· Transport category	3
· Tunnel restriction code	D/E
· UN "Model Regulation":	UN1993, FLAMMABLE LIQUID, N.O.S. (TOLUENE), 3, III

15 Regulatory information

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Relevant phrases

- H225 Highly flammable liquid and vapour.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H336 May cause drowsiness or dizziness.
H361d Suspected of damaging the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure.
R11 Highly flammable.
R38 Irritating to skin.
R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.
R63 Possible risk of harm to the unborn child.
R65 Harmful: may cause lung damage if swallowed.
R67 Vapours may cause drowsiness and dizziness.

(Contd. on page 8)

Printing date 03.04.2013

Revision: 08.03.2012

Trade name: HFA 4066T

(Contd. of page 7)

· **Department issuing MSDS:** Product safety department

· **Contact:** Mr. G.C. Spruijt

· **Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organization

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

GB

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name: **HFA 4076**

1.2 Relevant identified uses of the substance or mixture and uses advised against
CFPP Improver for gasoil/diesel

Sector of Use SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites

Product category PC13 Fuels

Application of the substance / the mixture Additive

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

WRT B.V.
Strawinskylaan 3067
1077ZX Amsterdam
The Netherlands
Tel.: 00-31-(0)20-644 2831
Fax.: 00-31-(0)20-642 3962
info@wrtbv.com

Further information obtainable from:

Product Safety Department
Tel.: 00-31-(0)-644 2831
info@wrtbv.com
Support is only given in the following languages: Dutch, English and German

1.4 Emergency telephone number:

Product Safety department
In case of a spill or accident, you can contact us at:
Tel.: 00-31-(0)20-644 2831
During office hours we can be contacted for general information at
Tel.: 00-31-(0)20-6442831
Support is only given in the following languages: Dutch, English, and German

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008



GHS02 flame

Flam. Liq. 3 H226 Flammable liquid and vapour.



GHS08 health hazard

Carc. 1B H350 May cause cancer.

Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.



GHS09 environment

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC



T; Toxic

R45: May cause cancer.



Xn; Harmful

R65: Harmful: may cause lung damage if swallowed.

(Contd. on page 2)

Trade name: HFA 4076

(Contd. of page 1)



N; Dangerous for the environment

R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R10: Flammable.

Information concerning particular hazards for human and environment:

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

Classification system:

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

2.2 Label elements
Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the CLP regulation.

Hazard pictograms


GHS02



GHS08



GHS09

Signal word Danger

Hazard-determining components of labelling:

Solvent naphtha (petroleum), light arom.
naphthalene

Hazard statements

H226 Flammable liquid and vapour.

H350 May cause cancer.

H304 May be fatal if swallowed and enters airways.

H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P103 Read label before use.

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P241 Use explosion-proof electrical/ventilating/lighting/equipment.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.





2.3 Other hazards
Results of PBT and vPvB assessment
PBT: Not applicable.

vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

3.2 Chemical characterisation: Mixtures
Description: Mixture of substances listed below with nonhazardous additions.

Dangerous components:

CAS: 64742-95-6	Solvent naphtha (petroleum), light arom.	25 - 50%
EINECS: 265-199-0	 T Carc. Cat. 2 R45;  Xn R65	
Reg.nr.: 01-2119486773-24	 Flam. Liq. 3, H226;  Carc. 1B, H350; Asp. Tox. 1, H304	

(Contd. on page 3)

Trade name: HFA 4076

(Contd. of page 2)

CAS: 8008-20-6 EINECS: 232-366-4 Reg.nr.: 01-2119485517-27	Kerosine (petroleum) Xn R65 Flam. Liq. 3, H226; Asp. Tox. 1, H304	5 - 10%
CAS: 91-20-3 EINECS: 202-049-5 Reg.nr.: 01-2119561346-37	naphthalene Xn R22-40; N R50/53 Carc. Cat. 3 Carc. 2, H351; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Acute Tox. 4, H302	1 - 5%
CAS: 95-63-6 EINECS: 202-436-9 Reg.nr.: 05-2117202756-46	1,2,4-trimethylbenzene Xn R20; Xi R36/37/38; N R51/53 R10 Flam. Liq. 3, H226; Aquatic Chronic 2, H411; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	1 - 5%

· **Additional information:** For the wording of the listed risk phrases refer to section 16.

SECTION 4: First aid measures

· 4.1 Description of first aid measures

· General information:

Take affected persons out into the fresh air.
Do not leave affected persons unattended.

· After inhalation:

Supply fresh air; consult doctor in case of complaints.
In case of unconsciousness place patient stably in side position for transportation.

· After skin contact:

Immediately rinse with water.
If skin irritation continues, consult a doctor.
Immediately remove contaminated clothing or footwear

· After eye contact:

Rinse opened eye for several minutes under running water.
Check for and remove any contact lenses

· After swallowing: Do not induce vomiting; call for medical help immediately.

· 4.2 Most important symptoms and effects, both acute and delayed

Headache
Disziness
Nausea

· 4.3 Indication of any immediate medical attention and special treatment needed

If swallowed or in case of vomiting, danger of entering the lungs.

SECTION 5: Firefighting measures

· 5.1 Extinguishing media

· Suitable extinguishing agents:

CO₂, sand, extinguishing powder. Do not use water.
Foam

· For safety reasons unsuitable extinguishing agents: Water with full jet

· 5.2 Special hazards arising from the substance or mixture

In case of fire, the following can be released:
Carbon monoxide (CO)
Carbon dioxide (CO₂)

· 5.3 Advice for firefighters

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from the fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

· Protective equipment:

(Contd. on page 4)

Trade name: HFA 4076

(Contd. of page 3)

Wear impervious clothing and self contained breathing apparatus. Use water to keep fire-exposed containers cool. If a leak or spill has not ignited use water spray to disperse the vapours and to provide protection for personnel attempting to stop a leak. Take care not to spread the fire with water. Contain fire-fighting water to prevent ingress to watercourses as it will cause oil pollution.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

6.2 Environmental precautions:

Do not allow product to reach sewage system or any water course.

Inform respective authorities in case of seepage into water course or sewage system.

Do not allow to enter sewers/ surface or ground water.

6.3 Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Do not flush with water or aqueous cleansing agents

6.4 Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

Prevent formation of aerosols.

Information about fire - and explosion protection:

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

Keep respiratory protective device available.

7.2 Conditions for safe storage, including any incompatibilities

Storage:

Requirements to be met by storerooms and receptacles:

Store in a cool location.

Store only in the original receptacle.

Information about storage in one common storage facility: Not required.

Further information about storage conditions:

Keep container tightly sealed.

Protect from heat and direct sunlight.

7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

Additional information about design of technical facilities: No further data; see item 7.

8.1 Control parameters

Ingredients with limit values that require monitoring at the workplace:

95-63-6 1,2,4-trimethylbenzene

WEL	Long-term value: 125 mg/m ³ , 25 ppm
ILV	

Additional information: The lists valid during the making were used as basis.

(Contd. on page 5)

Trade name: HFA 4076

(Contd. of page 4)

· 8.2 Exposure controls

· Personal protective equipment:

· General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Store protective clothing separately.

· Respiratory protection:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

Filter ABEK2P3R

· Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Fluorocarbon rubber (Viton)

· Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· Eye protection:



Tightly sealed goggles

· Body protection: Use protective suit.

SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· General Information

· Appearance:

Form:	Liquid
Colour:	Transparent
Odour:	Aromatic
Odour threshold:	Not determined.

· **pH-value:** Not applicable.

· Change in condition

Boiling point/Boiling range:	164 °C
Pour point	minus 9 °C

· **Flash point:** 47 °C

· **Flammability (solid, gaseous):** Not applicable.

· **Ignition temperature:** 450 °C

(Contd. on page 6)

Trade name: HFA 4076

(Contd. of page 5)

· Decomposition temperature:	Not determined.
· Self-igniting:	Product is not selfigniting.
· Danger of explosion:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· Explosion limits:	
Lower:	0.8 Vol %
Upper:	7.0 Vol %
· Vapour pressure at 20 °C:	<7 kPa
· Density at 15 °C:	0.89 - 0.92 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with water:	Not miscible or difficult to mix.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic at 40 °C:	33.26 mm ² /s (EN ISO 3104)
· 9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity**
- **10.2 Chemical stability** Stable under normal conditions
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid**
High temperature
Sources of ignition
Avoid the build-up of electrostatic charge
- **10.5 Incompatible materials:** Strong oxidizing agents
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity:**

· **LD/LC50 values relevant for classification:**
64742-95-6 Solvent naphtha (petroleum), light arom.

Oral	LD50	>6800 mg/kg (rat)
Dermal	LD50	>3400 mg/kg (rab)
Inhalative	LC50/4 h	>10.2 mg/l (rat)

91-20-3 naphthalene

Oral	LD50	490 mg/kg (rat)
Dermal	LD50	5000 mg/kg (rat)

95-63-6 1,2,4-trimethylbenzene

Oral	LD50	5000 mg/kg (rat)
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(Contd. on page 7)

Trade name: HFA 4076

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- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitisation:** No sensitising effects known.
- **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Carcinogenic.
- **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**
Carc. 1B

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Toxic for fish
- **Additional ecological information:**
- **General notes:**
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
Toxic for aquatic organisms
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
The generation of waste should be avoided or minimised wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of split material and runoff and contact with soil, waterways, drains and sewers.
- **Uncleaned packaging:**
- **Recommendation:**
Disposal must be made according to official regulations.

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Trade name: HFA 4076

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This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have been cleaned or rinsed out. Emptied containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of split material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

· 14.1 UN-Number
· ADR, IMDG, IATA UN1993

· 14.2 UN proper shipping name
· ADR 1993 FLAMMABLE LIQUID, N.O.S. (Solvent naphtha (petroleum), light arom., KEROSENE), ENVIRONMENTALLY HAZARDOUS

· IMDG FLAMMABLE LIQUID, N.O.S. (Solvent naphtha (petroleum), light arom., KEROSENE), MARINE POLLUTANT

· IATA FLAMMABLE LIQUID, N.O.S. (Solvent naphtha (petroleum), light arom., KEROSENE)

· 14.3 Transport hazard class(es)
· ADR, IMDG

· Class 3 Flammable liquids.

· Label 3

· IATA

· Class 3 Flammable liquids.

· Label 3

· 14.4 Packing group
· ADR, IMDG, IATA III

· 14.5 Environmental hazards: Product contains environmentally hazardous substances: naphthalene

· Marine pollutant: Yes
Symbol (fish and tree)

· Special marking (ADR): Symbol (fish and tree)

· 14.6 Special precautions for user Warning: Flammable liquids.

· Danger code (Kemler): 30

· EMS Number: F-E,S-E

· 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable.

· Transport/Additional information:
· ADR
· Limited quantities (LQ) 5L

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Trade name: HFA 4076

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· Transport category	3
· Tunnel restriction code	D/E
· UN "Model Regulation":	UN1993, FLAMMABLE LIQUID, N.O.S. (Solvent naphtha (petroleum), light arom., KEROSENE), ENVIRONMENTALLY HAZARDOUS, 3, III

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **National regulations:**
- **Information about limitation of use:**
Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation. Exceptions can be made by the authorities in certain cases.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant phrases**
 - H226 Flammable liquid and vapour.
 - H302 Harmful if swallowed.
 - H304 May be fatal if swallowed and enters airways.
 - H315 Causes skin irritation.
 - H319 Causes serious eye irritation.
 - H332 Harmful if inhaled.
 - H335 May cause respiratory irritation.
 - H350 May cause cancer.
 - H351 Suspected of causing cancer.
 - H400 Very toxic to aquatic life.
 - H410 Very toxic to aquatic life with long lasting effects.
 - H411 Toxic to aquatic life with long lasting effects.
 - R10 Flammable.
 - R20 Harmful by inhalation.
 - R22 Harmful if swallowed.
 - R36/37/38 Irritating to eyes, respiratory system and skin.
 - R40 Limited evidence of a carcinogenic effect.
 - R45 May cause cancer.
 - R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
 - R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
 - R65 Harmful: may cause lung damage if swallowed.

- **Department issuing MSDS:** Product safety department

- **Contact:** Mr. G.C. Spruijt

- **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
 IMDG: International Maritime Code for Dangerous Goods
 IATA: International Air Transport Association
 GHS: Globally Harmonised System of Classification and Labelling of Chemicals
 EINECS: European Inventory of Existing Commercial Chemical Substances
 ELINCS: European List of Notified Chemical Substances
 CAS: Chemical Abstracts Service (division of the American Chemical Society)
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent
 Flam. Liq. 3: Flammable liquids, Hazard Category 3
 Acute Tox. 4: Acute toxicity, Hazard Category 4
 Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
 Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2
 Carc. 1B: Carcinogenicity, Hazard Category 1B

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Safety data sheet
according to 453/2010/EC

Printing date 05.02.2015

Version number 4

Revision: 06.08.2014

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*Carc. 2: Carcinogenicity, Hazard Category 2**STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3**Asp. Tox. 1: Aspiration hazard, Hazard Category 1**Aquatic Acute 1: Hazardous to the aquatic environment - AcuteHazard, Category 1**Aquatic Chronic 1: Hazardous to the aquatic environment - Chronic Hazard, Category 1**Aquatic Chronic 2: Hazardous to the aquatic environment - Chronic Hazard, Category 2**· * **Data compared to the previous version altered.** Pour Point added*

— GB —

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name: **HFA 4077**

1.2 Relevant identified uses of the substance or mixture and uses advised against
CFPP Improver for gasoil/diesel

Sector of Use SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites

Product category PC13 Fuels

Application of the substance / the mixture Additive

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

WRT B.V.

Strawinskylaan 3067

1077ZX Amsterdam

The Netherlands

Tel.: 00-31-(0)20-644 2831

Fax.: 00-31-(0)20-642 3962

info@wrtbv.com

Further information obtainable from:

Product Safety Department

Tel.: 00-31-(0)-644 2831

info@wrtbv.com

Support is only given in the following languages: Dutch, English and German

1.4 Emergency telephone number:

Product Safety department

In case of a spill or accident, you can contact us at:

Tel.: 00-31-(0)20-644 2831

During office hours we can be contacted for general information at

Tel.: 00-31-(0)20-6442831

Support is only given in the following languages: Dutch, English, and German

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008



GHS08 health hazard

Muta. 1B

H340 May cause genetic defects.

Carc. 1B

H350 May cause cancer.

Asp. Tox. 1

H304 May be fatal if swallowed and enters airways.



GHS09 environment

Aquatic Chronic 1 H410 Very toxic to aquatic life with long lasting effects.



GHS07

Acute Tox. 4

H302 Harmful if swallowed.

Skin Irrit. 2

H315 Causes skin irritation.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC



T; Toxic

R45-46: May cause cancer. May cause heritable genetic damage.

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Xn; Harmful

R22-65: Harmful if swallowed. Harmful: may cause lung damage if swallowed.



Xi; Irritant

R38: Irritating to skin.



N; Dangerous for the environment

R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

· **Information concerning particular hazards for human and environment:**

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

· **Classification system:**

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

· **2.2 Label elements**

· **Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the CLP regulation.

· **Hazard pictograms**



GHS07 GHS08 GHS09

· **Signal word** Danger

· **Hazard-determining components of labelling:**

Aromatic hydrocarbons, distn. residues, naptha
naphthalene

· **Hazard statements**

H302 Harmful if swallowed.

H315 Causes skin irritation.

H340 May cause genetic defects.

H350 May cause cancer.

H304 May be fatal if swallowed and enters airways.

H410 Very toxic to aquatic life with long lasting effects.

· **Precautionary statements**

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P103 Read label before use.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P281 Use personal protective equipment as required.

P321 Specific treatment (see on this label).

P362 Take off contaminated clothing and wash before reuse.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **2.3 Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

· **3.2 Chemical characterization: Mixtures**

· **Description:** Mixture of substances listed below with nonhazardous additions.

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Trade name: HFA 4077

(Contd. of page 2)

Dangerous components:

CAS: 98072-36-7 EC number: 308-487-4 Reg.nr.: 01-2119480164-41	Aromatic hydrocarbons, distn. residues, naptha T Carc. Cat. 2, Muta. Cat. 2 R45-46; Xn R22-65; Xi R38; N R50/53 Muta. 1B, H340; Carc. 1B, H350; Asp. Tox. 1, H304; Aquatic Chronic 1, H410; Acute Tox. 4, H302; Skin Irrit. 2, H315	50 - 75%
CAS: 64742-94-5 EINECS: 265-198-5 Reg.nr.: 01-2119463583-34	Solvent naphtha (petroleum), heavy arom. Xn R65 Asp. Tox. 1, H304	5 - 10%
CAS: 64742-81-0 EINECS: 265-184-9 Reg.nr.: 01-2119462828-25	Kerosine (petroleum), hydrodesulfurized Xn R65 Asp. Tox. 1, H304	2 - 3%
CAS: 91-20-3 EINECS: 202-049-5 Reg.nr.: 01-2119561346-37	naphthalene Xn R22-40; N R50/53 Carc. Cat. 3 Carc. 2, H351; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Acute Tox. 4, H302	0.5 - 1.5%
CAS: 95-63-6 EINECS: 202-436-9 Reg.nr.: 05-2117202756-46	1,2,4-trimethylbenzene Xn R20; Xi R36/37/38; N R51/53 R10 Flam. Liq. 3, H226; Aquatic Chronic 2, H411; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	0.5 - 0.9%

Additional information: For the wording of the listed risk phrases refer to section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures
General information:

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

After inhalation:

In event of over-exposure remove individual to fresh air, taking steps necessary to protect the rescuer. If unconscious but breathing, place in a recovery position. If breathing stops, administer artificial respiration.

After skin contact:

Immediately wash with water and soap and rinse thoroughly.
Immediately remove contaminated clothing or footwear

After eye contact:

Rinse opened eye for several minutes under running water.
Check for and remove any contact lenses

After swallowing: Call for a doctor immediately.

4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media
Suitable extinguishing agents:

CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

For safety reasons unsuitable extinguishing agents: Water with full jet

5.2 Special hazards arising from the substance or mixture

In case of fire, the following can be released:

Carbon monoxide (CO)

Carbon dioxide (CO₂)

(Contd. on page 4)

Trade name: HFA 4077

(Contd. of page 3)

· **5.3 Advice for firefighters**

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from the fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

· **Protective equipment:**

Wear impervious clothing and self contained breathing apparatus. Use water to keep fire-exposed containers cool. If a leak or spill has not ignited use water spray to disperse the vapours and to provide protection for personnel attempting to stop a leak. Take care not to spread the fire with water. Contain fire-fighting water to prevent ingress to watercourses as it will cause oil pollution.

SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**

Avoid any direct contact with the product

Do not smoke

No flames, no sparks. Eliminate all ignition source.

· **6.2 Environmental precautions:**

Do not allow product to reach sewage system or any water course.

Inform respective authorities in case of seepage into water course or sewage system.

Dilute with plenty of water.

Do not allow to enter sewers/ surface or ground water.

· **6.3 Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

· **6.4 Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

Prevent formation of aerosols.

Avoid contact with spilled material. Do not touch or walk through spilled material.

· **Information about fire - and explosion protection:** Keep respiratory protective device available.

· **7.2 Conditions for safe storage, including any incompatibilities**

· **Storage:**

· **Requirements to be met by storerooms and receptacles:**

Protect container from direct sunlight in a dry, cool and wellventilated area, away from incompatible materials and food and drink.

· **Information about storage in one common storage facility:**

Do not store together with oxidizing and acidic materials as well as heavy-metal compounds.

Store away from foodstuffs.

· **Further information about storage conditions:** Keep container tightly sealed.

· **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· **Additional information about design of technical facilities:** No further data; see item 7.

· **8.1 Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

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(Contd. of page 4)

· **Additional information:** The lists valid during the making were used as basis.

· **8.2 Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid contact with the skin.

Avoid contact with the eyes and skin.

· **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

Filter A/P2

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **For the permanent contact in work areas without heightened risk of injury (e.g. Laboratory) gloves made of the following material are suitable:**

Fluorocarbon rubber (Viton)

· **Eye protection:**



Tightly sealed goggles

· **Body protection:** Solvent resistant protective clothing

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form:

Liquid

Colour:

Dark yellow

· **Odour:**

Aromatic

· **Odour threshold:**

Not determined.

· **pH-value:**

Not applicable.

· **Change in condition**

Melting point/Melting range:

Undetermined.

Boiling point/Boiling range:

190 °C

(Contd. on page 6)

Trade name: HFA 4077

(Contd. of page 5)

· Flash point:	61 °C
· Flammability (solid, gaseous):	Not applicable.
· Ignition temperature:	
· Decomposition temperature:	Not determined.
· Self-igniting:	Product is not selfigniting.
· Danger of explosion:	Product does not present an explosion hazard.
· Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
· Vapour pressure:	Not determined.
· Density at 20 °C:	0.93 - 0.95 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with water:	Fully miscible.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic at 50 °C:	7.765 mm ² /s (DIN 53211/4)
· 9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No dangerous reaction if the regulations for storage and handling are observed.
- **10.2 Chemical stability** Stable under normal conditions
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid**
High temperature
Sources of ignition
Avoid the build-up of electrostatic charge
- **10.5 Incompatible materials:** Oxidizing materials
- **10.6 Hazardous decomposition products:**
In case of fire, carbon monoxide, carbon dioxide, and / or low molecular weight hydrocarbons are released.

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity:**
- **LD/LC50 values relevant for classification:**
- 91-20-3 naphthalene**
- | | | |
|--------|------|------------------|
| Oral | LD50 | 490 mg/kg (rat) |
| Dermal | LD50 | 5000 mg/kg (rat) |
- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.

(Contd. on page 7)

Trade name: HFA 4077

(Contd. of page 6)

- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Harmful
Irritant
Carcinogenic.
The product can cause inheritable damage.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
Muta. 1B, Carc. 1B

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:**
Very toxic to aquatic organisms. May cause long term effects in the aquatic environment.
- **12.2 Persistence and degradability** approx. 20% (28days) OESO 301 B
- **12.3 Bioaccumulative potential** BCF: 39 - 18190
- **12.4 Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Very toxic for fish
- **Additional ecological information:**
- **General notes:**
Water hazard class 3 (German Regulation) (Self-assessment): extremely hazardous for water
Do not allow product to reach ground water, water course or sewage system, even in small quantities.
Danger to drinking water if even extremely small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
Very toxic for aquatic organisms
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
The generation of waste should be avoided or minimised wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of split material and runoff and contact with soil, waterways, drains and sewers.
- **Uncleaned packaging:**
- **Recommendation:**
Disposal must be made according to official regulations.
This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have been cleaned or rinsed out. Emptied containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally.

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Avoid dispersal of split material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

· 14.1 UN-Number	
· ADR, IMDG, IATA	UN3082
· 14.2 UN proper shipping name	
· ADR	3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Aromatic hydrocarbons, distn. residues, naptha, NAPHTHALENE, CRUDE)
· IMDG	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Aromatic hydrocarbons, distn. residues, naptha, NAPHTHALENE, CRUDE), MARINE POLLUTANT
· IATA	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Aromatic hydrocarbons, distn. residues, naptha, NAPHTHALENE, CRUDE)
· 14.3 Transport hazard class(es)	
· ADR, IMDG, IATA	
	 
· Class	9 Miscellaneous dangerous substances and articles.
· Label	9
· 14.4 Packing group	
· ADR, IMDG, IATA	III
· 14.5 Environmental hazards:	Product contains environmentally hazardous substances: Aromatic hydrocarbons, distn. residues, naptha
· Marine pollutant:	Yes
	Symbol (fish and tree)
· Special marking (ADR):	Symbol (fish and tree)
· Special marking (IATA):	Symbol (fish and tree)
· 14.6 Special precautions for user	Warning: Miscellaneous dangerous substances and articles.
· Danger code (Kemler):	90
· EMS Number:	F-A,S-F
· 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	5L
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· Transport category	3
· Tunnel restriction code	E

(Contd. on page 9)

GB

Trade name: HFA 4077

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· IMDG	
· Limited quantities (LQ)	5L
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· UN "Model Regulation":	UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Aromatic hydrocarbons, distn. residues, naptha, NAPHTHALENE, CRUDE), 9, III

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **National regulations:**
- **Information about limitation of use:**
Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation. Exceptions can be made by the authorities in certain cases.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant phrases**
 - H226 Flammable liquid and vapour.
 - H302 Harmful if swallowed.
 - H304 May be fatal if swallowed and enters airways.
 - H315 Causes skin irritation.
 - H319 Causes serious eye irritation.
 - H332 Harmful if inhaled.
 - H335 May cause respiratory irritation.
 - H340 May cause genetic defects.
 - H350 May cause cancer.
 - H351 Suspected of causing cancer.
 - H400 Very toxic to aquatic life.
 - H410 Very toxic to aquatic life with long lasting effects.
 - H411 Toxic to aquatic life with long lasting effects.
 - R10 Flammable.
 - R20 Harmful by inhalation.
 - R22 Harmful if swallowed.
 - R36/37/38 Irritating to eyes, respiratory system and skin.
 - R38 Irritating to skin.
 - R40 Limited evidence of a carcinogenic effect.
 - R45 May cause cancer.
 - R46 May cause heritable genetic damage.
 - R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
 - R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
 - R65 Harmful: may cause lung damage if swallowed.

· **Department issuing MSDS:** Product safety department

· **Contact:** Mr. G.C. Spruijt

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances

(Contd. on page 10)



Safety data sheet
according to 453/2010/EC

Printing date 06.08.2014

Version number 1

Revision: 25.07.2014

Trade name: HFA 4077

(Contd. of page 9)

CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
Flam. Liq. 3: Flammable liquids, Hazard Category 3
Acute Tox. 4: Acute toxicity, Hazard Category 4
Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2
Muta. 1B: Germ cell mutagenicity, Hazard Category 1B
Carc. 1B: Carcinogenicity, Hazard Category 1B
Carc. 2: Carcinogenicity, Hazard Category 2
STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3
Asp. Tox. 1: Aspiration hazard, Hazard Category 1
Aquatic Acute 1: Hazardous to the aquatic environment - Acute Hazard, Category 1
Aquatic Chronic 1: Hazardous to the aquatic environment - Chronic Hazard, Category 1
Aquatic Chronic 2: Hazardous to the aquatic environment - Chronic Hazard, Category 2

GB

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name: **HFA 4099**

1.2 Relevant identified uses of the substance or mixture and uses advised against
CFPP Improver for gasoil/diesel

Sector of Use Oil Industry

Application of the substance / the mixture Additive

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

WRT B.V.

Strawinskylaan 3067

1077ZX Amsterdam

The Netherlands

Tel.: 00-31-(0)20-644 2831

Fax.: 00-31-(0)20-642 3962

info@wrtbv.com

Further information obtainable from:

Product Safety Department

Tel.: 00-31-(0)-644 2831

info@wrtbv.com

Support is only given in the following languages: Dutch, English and German

1.4 Emergency telephone number:

Product Safety department

In case of a spill or accident, you can contact us at:

Tel.: 00-31-(0)20-644 2831

During office hours we can be contacted for general information at

Tel.: 00-31-(0)20-6442831

Support is only given in the following languages: Dutch, English, and German

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008



GHS02 flame

Flam. Liq. 3

H226

Flammable liquid and vapour.



GHS09 environment

Aquatic Chronic 2 H411

Toxic to aquatic life with long lasting effects.



GHS07

STOT SE 3

H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC



Xi; Irritant

R37: Irritating to respiratory system.



N; Dangerous for the environment

R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R10-67: Flammable. Vapours may cause drowsiness and dizziness.

(Contd. on page 2)

Trade name: HFA 4099

(Contd. of page 1)

Information concerning particular hazards for human and environment:

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

Classification system:

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the CLP regulation.

Hazard pictograms



GHS02 GHS07 GHS09

Signal word Warning

Hazard-determining components of labelling:

Hydrocarbons, C9, Aromatics

Hazard statements

H226 Flammable liquid and vapour.

H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.

H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P103 Read label before use.

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P241 Use explosion-proof electrical/ventilating/lighting/equipment.

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

3.2 Chemical characterisation: Mixtures

Description: Mixture of substances listed below with nonhazardous additions.

Dangerous components:

EC number: 918-668-5 Reg.nr.: 01-2119455851-35	Hydrocarbons, C9, Aromatics Xi R37; N R51/53 R10-66-67 Flam. Liq. 3, H226; Asp. Tox. 1, H304; Aquatic Chronic 2, H411; STOT SE 3, H335-H336	30 - 40%
CAS: 8008-20-6 EINECS: 232-366-4 Reg.nr.: 01-2119485517-27	Kerosine (petroleum) Xn R65 Flam. Liq. 3, H226; Asp. Tox. 1, H304	20 - 30%

(Contd. on page 3)

Trade name: HFA 4099

(Contd. of page 2)

CAS: 64742-94-5 EINECS: 265-198-5 Reg.nr.: 01-2119463583-34	Solvent naphtha (petroleum), heavy arom. Xn R65 Asp. Tox. 1, H304	4 - 6%
CAS: 64742-81-0 EINECS: 265-184-9 Reg.nr.: 01-2119462828-25	Kerosine (petroleum), hydrodesulfurized Xn R65 Asp. Tox. 1, H304	1 - 2.5%
CAS: 91-20-3 EINECS: 202-049-5 Reg.nr.: 01-2119561346-37	naphthalene Xn R22-40; N R50/53 Carc. Cat. 3 Carc. 2, H351; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Acute Tox. 4, H302	0.5 - 1.5%
CAS: 95-63-6 EINECS: 202-436-9 Reg.nr.: 05-2117202756-46	1,2,4-trimethylbenzene Xn R20; Xi R36/37/38; N R51/53 R10 Flam. Liq. 3, H226; Aquatic Chronic 2, H411; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	0.5 - 1.5%
CAS: 108-67-8 EINECS: 203-604-4 Reg.nr.: 01-2119463878-19	mesitylene Xi R37; N R51/53 R10 Flam. Liq. 3, H226; Aquatic Chronic 2, H411; STOT SE 3, H335	0.5 - 1.5%

· **Additional information:** For the wording of the listed risk phrases refer to section 16.

SECTION 4: First aid measures

· 4.1 Description of first aid measures

· General information:

Take affected persons out into the fresh air.
Immediately remove any clothing soiled by the product.

· **After inhalation:** Supply fresh air; consult doctor in case of complaints.

· After skin contact:

Immediately remove contaminated clothing or footwear
Immediately wash with water and soap and rinse thoroughly.
If skin irritation continues, consult a doctor.

· After eye contact:

Check for and remove any contact lenses
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

· After swallowing:

If symptoms persist consult doctor.
Rinse out mouth and then drink plenty of water.

· 4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

· 4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

SECTION 5: Firefighting measures

· 5.1 Extinguishing media

· Suitable extinguishing agents:

Foam
CO2, sand, extinguishing powder. Do not use water.

· **For safety reasons unsuitable extinguishing agents:** Water with full jet

· 5.2 Special hazards arising from the substance or mixture

In case of fire, the following can be released:

Carbon monoxide (CO)
Carbon dioxide (CO2)

(Contd. on page 4)

Trade name: HFA 4099

(Contd. of page 3)

· **5.3 Advice for firefighters**

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from the fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

· **Protective equipment:** Wear self-contained respiratory protective device.

SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Keep away from ignition sources.

· **6.2 Environmental precautions:**

Do not allow product to reach sewage system or any water course.

Inform respective authorities in case of seepage into water course or sewage system.

Do not allow to enter sewers/ surface or ground water.

· **6.3 Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Ensure adequate ventilation.

Do not flush with water or aqueous cleansing agents

· **6.4 Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

· **Information about fire - and explosion protection:**

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

Fumes can combine with air to form an explosive mixture.

· **7.2 Conditions for safe storage, including any incompatibilities**

· **Storage:**

· **Requirements to be met by storerooms and receptacles:**

Store only in unopened original receptacles.

· **Information about storage in one common storage facility:** Not required.

· **Further information about storage conditions:** Keep container tightly sealed.

· **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· **Additional information about design of technical facilities:** No further data; see item 7.

· **8.1 Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

· **Additional information:** The lists valid during the making were used as basis.

· **8.2 Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

(Contd. on page 5)

Trade name: HFA 4099

(Contd. of page 4)

Wash hands before breaks and at the end of work.

· **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

· **Material of gloves**

Nitrile rubber, NBR

Neoprene gloves

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

· **Body protection:** Protective work clothing

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form:

Liquid

Colour:

Grey

· **Odour:**

Aromatic

· **Odour threshold:**

Not determined.

· **pH-value:**

Not applicable.

· **Change in condition**

Melting point/Melting range:

Undetermined.

Boiling point/Boiling range:

164 °C

· **Pour point**

6 °C

· **Flash point:**

31 °C

· **Flammability (solid, gaseous):**

Not applicable.

· **Ignition temperature:**

440 °C

· **Decomposition temperature:**

Not determined.

· **Self-igniting:**

Product is not selfigniting.

· **Danger of explosion:**

Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

· **Explosion limits:**

Lower:

0.8 Vol %

Upper:

7.0 Vol %

· **Vapour pressure at 20 °C:**

5 hPa

· **Density at 20 °C:**

0.89 - 0.91 g/cm³

(Contd. on page 6)

Trade name: HFA 4099

(Contd. of page 5)

· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with water:	Not miscible or difficult to mix.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic at 20 °C:	256 mm ² /s
· 9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability** Stable under normal conditions
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid**
High temperature
Sources of ignition
Avoid the build-up of electrostatic charge
- **10.5 Incompatible materials:** Strong oxidizing agents
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity**

· **LD/LC50 values relevant for classification:**

91-20-3 naphthalene

Oral	LD50	490 mg/kg (rat)
Dermal	LD50	5000 mg/kg (rat)

Hydrocarbons, C9, Aromatics

Oral	LD50	3592 mg/kg (rat) ((OECD 401))
Dermal	LD50	> 3160 mg/kg (rabbit) ((OECD 402))
Inhalative	LC50/4 h	> 6193 mg/l (rat) ((OECD 403))

- **Primary irritant effect:**
- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure**
May cause respiratory irritation. May cause drowsiness or dizziness.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.

(Contd. on page 7)

Trade name: HFA 4099

(Contd. of page 6)

· **Aspiration hazard** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

· 12.1 Toxicity

· **Aquatic toxicity:** No further relevant information available.

· **12.2 Persistence and degradability** No further relevant information available.

· 12.3 Bioaccumulative potential

Due to the distribution coefficient n-octanol/water a worth-mentioning accumulation in organisms is not expected.

· **12.4 Mobility in soil** No further relevant information available.

· Ecotoxicological effects:

· **Remark:** Toxic for fish

· Additional ecological information:

· General notes:

Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into the ground.

Also poisonous for fish and plankton in water bodies.

Toxic for aquatic organisms

· 12.5 Results of PBT and vPvB assessment

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

· 13.1 Waste treatment methods

· Recommendation

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· Uncleaned packaging:

· **Recommendation:** Disposal must be made according to official regulations.

SECTION 14: Transport information

· 14.1 UN-Number

· **ADR, IMDG, IATA** UN1993

· 14.2 UN proper shipping name

· **ADR** 1993 FLAMMABLE LIQUID, N.O.S. (Hydrocarbons, C9, aromatics, KEROSENE), ENVIRONMENTALLY HAZARDOUS

· **IMDG** FLAMMABLE LIQUID, N.O.S. (Hydrocarbons, C9, aromatics, KEROSENE), MARINE POLLUTANT

· **IATA** FLAMMABLE LIQUID, N.O.S. (Hydrocarbons, C9, aromatics, KEROSENE)

(Contd. on page 8)

Trade name: HFA 4099

(Contd. of page 7)

· **14.3 Transport hazard class(es)**

· **ADR, IMDG**



· **Class**

3 Flammable liquids.

· **Label**

3

· **IATA**



· **Class**

3 Flammable liquids.

· **Label**

3

· **14.4 Packing group**

· **ADR, IMDG, IATA**

III

· **14.5 Environmental hazards:**

Product contains environmentally hazardous substances:
naphthalene

· **Marine pollutant:**

Yes

Symbol (fish and tree)

· **Special marking (ADR):**

Symbol (fish and tree)

· **14.6 Special precautions for user**

Warning: Flammable liquids.

· **Danger code (Kemler):**

30

· **EMS Number:**

F-E, S-E

· **14.7 Transport in bulk according to**

Annex II of Marpol and the IBC Code Not applicable.

· **Transport/Additional information:**

· **ADR**

· **Limited quantities (LQ)**

5L

· **Transport category**

3

· **Tunnel restriction code**

D/E

· **UN "Model Regulation":**

UN1993, FLAMMABLE LIQUID, N.O.S. (Hydrocarbons, C9, aromatics, KEROSENE), ENVIRONMENTALLY HAZARDOUS, 3, III

SECTION 15: Regulatory information

· **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

No further relevant information available.

· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant phrases**

H226 Flammable liquid and vapour.

(Contd. on page 9)

Trade name: HFA 4099

(Contd. of page 8)

H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
R10	Flammable.
R20	Harmful by inhalation.
R22	Harmful if swallowed.
R36/37/38	Irritating to eyes, respiratory system and skin.
R37	Irritating to respiratory system.
R40	Limited evidence of a carcinogenic effect.
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R65	Harmful: may cause lung damage if swallowed.
R66	Repeated exposure may cause skin dryness or cracking.
R67	Vapours may cause drowsiness and dizziness.

· **Department issuing MSDS:** Product safety department

· **Contact:** Mr. G.C. Spruijt

· **Abbreviations and acronyms:**

Flam. Liq. 3: Flammable liquids, Hazard Category 3
 Acute Tox. 4: Acute toxicity, Hazard Category 4
 Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
 Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2
 Carc. 2: Carcinogenicity, Hazard Category 2
 STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3
 Asp. Tox. 1: Aspiration hazard, Hazard Category 1
 Aquatic Acute 1: Hazardous to the aquatic environment - Acute Hazard, Category 1
 Aquatic Chronic 1: Hazardous to the aquatic environment - Chronic Hazard, Category 1
 Aquatic Chronic 2: Hazardous to the aquatic environment - Chronic Hazard, Category 2

1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
- **Trade name:** **HFA 4101**
- **Relevant identified uses of the substance or mixture and uses advised against**
- **Sector of Use** Oil industry
- **Application of the substance / the preparation** CFPP Improver
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
WRT B.V.
Strawinskylaan 3067
1077ZX Amsterdam
The Netherlands
Tel.: 00-31-(0)20-644 2831
Fax.: 00-31-(0)20-642 3962
info@wrtbv.com
- **Further information obtainable from:**
Product Safety Department
Tel.: 00-31-(0)-644 2831
info@wrtbv.com
Support is only given in the following languages: Dutch, English and German
- **Emergency telephone number:**
Product Safety department
In case of a spill or accident, you can contact us at:
Tel.: 00-31-(0)20-644 2831
During office hours we can be contacted for general information at
Tel.: 00-31-(0)20-6442831
Support is only given in the following languages: Dutch, English, and German

2 Hazards identification

- **Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS02 flame

Flam. Liq. 3 H226 Flammable liquid and vapour.



GHS08 health hazard

Carc. 2 H351 Suspected of causing cancer.



GHS09 environment

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.



GHS07

STOT SE 3 H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



Xn; Harmful

R40: Limited evidence of a carcinogenic effect.

(Contd. on page 2)

Trade name: HFA 4101

(Contd. of page 1)



Xi; Irritant

R37: Irritating to respiratory system.



N; Dangerous for the environment

R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R10-67: Flammable. Vapours may cause drowsiness and dizziness.

· **Information concerning particular hazards for human and environment:**

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

· **Classification system:**

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

· **Label elements**

· **Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the CLP regulation.

· **Hazard pictograms**



GHS02



GHS07



GHS08



GHS09

· **Signal word** Warning

· **Hazard-determining components of labelling:**

naphthalene

· **Hazard statements**

H226 Flammable liquid and vapour.

H351 Suspected of causing cancer.

H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.

H411 Toxic to aquatic life with long lasting effects.

· **Precautionary statements**

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P241 Use explosion-proof electrical/ventilating/lighting/equipment.

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

· **Description:** Mixture of substances listed below with nonhazardous additions.

(Contd. on page 3)

Trade name: HFA 4101

(Contd. of page 2)

· Dangerous components:

CAS: 8008-20-6 EINECS: 232-366-4	Kerosine (petroleum) Xn R65 Flam. Liq. 3, H226; Asp. Tox. 1, H304	30 - 60%
CAS: 9186-68-5 EC number: 918-668-5	Hydrocarbons, C9, aromatics Xn R65; Xi R37; N R51/53 R10-66-67 Flam. Liq. 3, H226; Asp. Tox. 1, H304; Aquatic Chronic 2, H411; STOT SE 3, H335-H336	10 - 25%
CAS: 64742-94-5 EINECS: 265-198-5	Solvent naphtha (petroleum), heavy arom. Xn R65 Asp. Tox. 1, H304	4 - 10%
CAS: 91-20-3 EINECS: 202-049-5	naphthalene Xn R22-40; N R50/53 Carc. Cat. 3 Carc. 2, H351; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Acute Tox. 4, H302	0.1 - 2.5%
CAS: 95-63-6 EINECS: 202-436-9	1,2,4-trimethylbenzene Xn R20; Xi R36/37/38; N R51/53 R10 Flam. Liq. 3, H226; Aquatic Chronic 2, H411; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	0.1 - 2.5%

· Additional information: For the wording of the listed risk phrases refer to section 16.**4 First aid measures****· Description of first aid measures****· After inhalation:** Supply fresh air; consult doctor in case of complaints.**· After skin contact:** Generally the product does not irritate the skin.**· After eye contact:** Rinse opened eye for several minutes under running water.**· After swallowing:** If symptoms persist consult doctor.**· Information for doctor:****· Most important symptoms and effects, both acute and delayed**

No further relevant information available.

· Indication of any immediate medical attention and special treatment needed

No further relevant information available.

5 Firefighting measures**· Extinguishing media****· Suitable extinguishing agents:** CO₂, sand, extinguishing powder. Do not use water.**· For safety reasons unsuitable extinguishing agents:** Water with full jet**· Special hazards arising from the substance or mixture**

No further relevant information available.

· Advice for firefighters**· Protective equipment:** No special measures required.**6 Accidental release measures****· Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

· Environmental precautions:

Inform respective authorities in case of seepage into water course or sewage system.

Do not allow to enter sewers/ surface or ground water.

(Contd. on page 4)

Trade name: HFA 4101

(Contd. of page 3)

· **Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Do not flush with water or aqueous cleansing agents

· **Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage

· **Handling:**

· **Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

· **Information about fire - and explosion protection:**

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

· **Conditions for safe storage, including any incompatibilities**

· **Storage:**

· **Requirements to be met by storerooms and receptacles:** No special requirements.

· **Information about storage in one common storage facility:** Not required.

· **Further information about storage conditions:** Keep container tightly sealed.

· **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

· **Additional information about design of technical facilities:** No further data; see item 7.

· **Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

95-63-6 1,2,4-trimethylbenzene

WEL	Long-term value: 125 mg/m ³ , 25 ppm
ILV	

· **Additional information:** The lists valid during the making were used as basis.

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

· **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

(Contd. on page 5)

Trade name: HFA 4101

(Contd. of page 4)

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form:	Liquid
Colour:	Light yellow
Odour:	Aromatic
Odour threshold:	Not determined.

pH-value:	Not determined.
-----------	-----------------

· **Change in condition**

Melting point/Melting range: Undetermined.

Boiling point/Boiling range: 180 °C

Pour point	3 °C
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Flash point:	60 °C
--------------	-------

Ignition temperature:	270 °C
-----------------------	--------

Decomposition temperature:	Not determined.
----------------------------	-----------------

Self-igniting:	Product is not selfigniting.
----------------	------------------------------

Danger of explosion:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
----------------------	---

· **Explosion limits:**

Lower: 1.5 Vol %

Upper: 7.0 Vol %

Vapour pressure at 20 °C:	2.1 hPa
---------------------------	---------

Density at 20 °C:	0.90 - 0.91 g/cm ³
-------------------	-------------------------------

Relative density	Not determined.
------------------	-----------------

Vapour density	Not determined.
----------------	-----------------

Evaporation rate	Not determined.
------------------	-----------------

· **Solubility in / Miscibility with water:**

Not miscible or difficult to mix.

Partition coefficient (n-octanol/water):	Not determined.
--	-----------------

· **Viscosity:**

Dynamic at 20 °C: 380 mPas

Kinematic: Not determined.

(Contd. on page 6)

Trade name: HFA 4101

(Contd. of page 5)

· **Other information**

No further relevant information available.

10 Stability and reactivity

- **Reactivity**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· **LD/LC50 values relevant for classification:****9186-68-5 Hydrocarbons, C9, aromatics**

Oral	LD50	> 3500 mg/kg (rat) (OECD TG 401)
Dermal	LD50	> 3000 mg/kg (rat) (OECD TG 402)
Inhalative	LC50/4 h	> 6000 mg/l (rat) (OECD TG 403)

91-20-3 naphthalene

Oral	LD50	490 mg/kg (rat)
Dermal	LD50	5000 mg/kg (rat)

- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Irritant

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Toxic for fish
- **Additional ecological information:**
- **General notes:**
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
Toxic for aquatic organisms

(Contd. on page 7)

Printing date 11.03.2013

Revision: 03.03.2013

Trade name: HFA 4101




(Contd. of page 6)

- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

· UN-Number	
· ADR, IMDG, IATA	1993
· UN proper shipping name	
· ADR	1993 FLAMMABLE LIQUID, N.O.S. (KEROSENE, Hydrocarbons, C9, aromatics)
· IMDG, IATA	FLAMMABLE LIQUID, N.O.S. (KEROSENE, Hydrocarbons, C9, aromatics)
· Transport hazard class(es)	
· ADR, IMDG	
 	
· Class	3 Flammable liquids.
· Label	3
· IATA	
	
· Class	3 Flammable liquids.
· Label	3
· Packing group	
· ADR, IMDG, IATA	III
· Environmental hazards:	Product contains environmentally hazardous substances: naphthalene
· Marine pollutant:	Yes Symbol (fish and tree)
· Special marking (ADR):	Symbol (fish and tree)
· Special precautions for user	Warning: Flammable liquids.
· Danger code (Kemler):	30
· EMS Number:	F-E,S-E

(Contd. on page 8)

Trade name: HFA 4101

(Contd. of page 7)

- | | | |
|--|-----|--|
| · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | | Not applicable. |
| · Transport/Additional information: | | |
| · ADR | | |
| · Limited quantities (LQ) | LQ7 | |
| · Transport category | 3 | |
| · Tunnel restriction code | D/E | |
| · UN "Model Regulation": | | UN1993, FLAMMABLE LIQUID, N.O.S., 3, III |

15 Regulatory information

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant phrases**

- | | |
|-----------|--|
| H226 | Flammable liquid and vapour. |
| H302 | Harmful if swallowed. |
| H304 | May be fatal if swallowed and enters airways. |
| H315 | Causes skin irritation. |
| H319 | Causes serious eye irritation. |
| H332 | Harmful if inhaled. |
| H335 | May cause respiratory irritation. |
| H336 | May cause drowsiness or dizziness. |
| H351 | Suspected of causing cancer. |
| H400 | Very toxic to aquatic life. |
| H410 | Very toxic to aquatic life with long lasting effects. |
| H411 | Toxic to aquatic life with long lasting effects. |
| | |
| R10 | Flammable. |
| R20 | Harmful by inhalation. |
| R22 | Harmful if swallowed. |
| R36/37/38 | Irritating to eyes, respiratory system and skin. |
| R37 | Irritating to respiratory system. |
| R40 | Limited evidence of a carcinogenic effect. |
| R50/53 | Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. |
| R51/53 | Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. |
| R65 | Harmful: may cause lung damage if swallowed. |
| R66 | Repeated exposure may cause skin dryness or cracking. |
| R67 | Vapours may cause drowsiness and dizziness. |

- **Department issuing MSDS:** Product safety department

- **Contact:** Mr. G.C. Spruijt

- **Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
 ICAO: International Civil Aviation Organization
 ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
 IMDG: International Maritime Code for Dangerous Goods
 IATA: International Air Transport Association
 GHS: Globally Harmonized System of Classification and Labelling of Chemicals
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name: **HFA 4114**

1.2 Relevant identified uses of the substance or mixture and uses advised against
CFPP Improver for gasoil/diesel

Sector of Use

SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites
Oil industry

Product category PC13 Fuels

Application of the substance / the mixture

Additive
CFPP Improver

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

WRT B.V.
Strawinskylaan 3067
1077ZX Amsterdam
The Netherlands
Tel.: 00-31-(0)20-644 2831
Fax.: 00-31-(0)20-642 3962
info@wrtbv.com

Further information obtainable from:

Product Safety Department
Tel.: 00-31-(0)-644 2831
info@wrtbv.com
Support is only given in the following languages: Dutch, English and German

1.4 Emergency telephone number:

Product Safety department
In case of a spill or accident, you can contact us at:
Tel.: 00-31-(0)20-644 2831
During office hours we can be contacted for general information at
Tel.: 00-31-(0)20-6442831
Support is only given in the following languages: Dutch, English, and German

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008



GHS02 flame

Flam. Liq. 3 H226 Flammable liquid and vapour.



GHS09 environment

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.



GHS07

STOT SE 3 H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC



Xi; Irritant

R37: Irritating to respiratory system.

(Contd. on page 2)

Trade name: HFA 4114

(Contd. of page 1)



N; Dangerous for the environment

R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R10-67: Flammable. Vapours may cause drowsiness and dizziness.

Information concerning particular hazards for human and environment:

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

Classification system:

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the CLP regulation.

Hazard pictograms



GHS02



GHS07



GHS09

Signal word Warning

Hazard-determining components of labelling:

Hydrocarbons, C9, aromatics

Hazard statements

H226 Flammable liquid and vapour.

H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.

H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P103 Read label before use.

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P241 Use explosion-proof electrical/ventilating/lighting/equipment.

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.








vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

3.2 Chemical characterization: Mixtures

Description: Mixture of substances listed below with nonhazardous additions.

Dangerous components:

CAS: 9186-68-5	Hydrocarbons, C9, aromatics	40 - 50%
EC number: 918-668-5	 Xn R65;  Xi R37;  N R51/53	
Reg.nr.: 01-2119455851-35	R10-66-67	
	 Flam. Liq. 3, H226;  Asp. Tox. 1, H304;  Aquatic Chronic 2, H411;  STOT SE 3, H335-H336	

(Contd. on page 3)

Trade name: HFA 4114

(Contd. of page 2)

CAS: 8008-20-6 EINECS: 232-366-4 Reg.nr.: 01-2119485517-27	Kerosine (petroleum) Xn R65 Flam. Liq. 3, H226; Asp. Tox. 1, H304	20 - 35%
CAS: 64742-94-5 EINECS: 265-198-5 Reg.nr.: 01-2119463583-34	Solvent naphtha (petroleum), heavy arom. Xn R65 Asp. Tox. 1, H304	2.5 - 5%
CAS: 91-20-3 EINECS: 202-049-5 Reg.nr.: 01-2119561346-37	naphthalene Xn R22-40; N R50/53 Carc. Cat. 3 Carc. 2, H351; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Acute Tox. 4, H302	0.25 - 1%
CAS: 95-63-6 EINECS: 202-436-9 Reg.nr.: 05-2117202756-46	1,2,4-trimethylbenzene Xn R20; Xi R36/37/38; N R51/53 R10 Flam. Liq. 3, H226; Aquatic Chronic 2, H411; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	0.25 - 1%

Additional information: For the wording of the listed risk phrases refer to section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information:

Immediately remove any clothing soiled by the product.
Showers and eye fountains near the workplace

After inhalation: Supply fresh air; consult doctor in case of complaints.

After skin contact: Generally the product does not irritate the skin.

After eye contact: Rinse opened eye for several minutes under running water.

After swallowing: If symptoms persist consult doctor.

4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing agents:

CO₂, powder or water spray. Fight larger fire with alcohol resistant foam.

For safety reasons unsuitable extinguishing agents: Water with full jet

5.2 Special hazards arising from the substance or mixture

In case of fire, the following can be released:

Carbon monoxide (CO)

Carbon dioxide (CO₂)

5.3 Advice for firefighters

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from the fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Protective equipment:

Wear impervious clothing and self contained breathing apparatus. Use water to keep fire-exposed containers cool. If a leak or spill has not ignited use water spray to disperse the vapours and to provide protection for personnel attempting to stop a leak. Take care not to spread the fire with water. Contain fire-fighting water to prevent ingress to watercourses as it will cause oil pollution.

GB

(Contd. on page 4)

Trade name: HFA 4114

(Contd. of page 3)

SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

· **6.2 Environmental precautions:**

Do not allow product to reach sewage system or any water course.

Inform respective authorities in case of seepage into water course or sewage system.

Do not allow to enter sewers/ surface or ground water.

· **6.3 Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Ensure adequate ventilation.

Do not flush with water or aqueous cleansing agents

· **6.4 Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

· **Information about fire - and explosion protection:**

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

· **7.2 Conditions for safe storage, including any incompatibilities**

· **Storage:**

· **Requirements to be met by storerooms and receptacles:**

Provide solvent resistant, sealed floor.

· **Information about storage in one common storage facility:** Store away from foodstuffs.

· **Further information about storage conditions:** Keep container tightly sealed.

· **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· **Additional information about design of technical facilities:** No further data; see item 7.

· **8.1 Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

· **Additional information:** The lists valid during the making were used as basis.

· **8.2 Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

· **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

· **Protection of hands:**



Protective gloves

(Contd. on page 5)

Trade name: HFA 4114

(Contd. of page 4)

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

For the permanent contact gloves made of the following materials are suitable:

Fluorocarbon rubber (Viton)

Eye protection:



Tightly sealed goggles

Body protection: Use protective suit.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information

Appearance:

Form:	Liquid
Colour:	Yellowish
Odour:	Aromatic
Odour threshold:	Not determined.

pH-value: Not applicable.

Change in condition

Melting point/Melting range: Undetermined.

Boiling point/Boiling range: 270 °C

Pour point: - 6 °C

Flash point: 53 °C

Flammability (solid, gaseous): Not applicable.

Ignition temperature: 440 °C

Decomposition temperature: Not applicable

Self-igniting: Product is not selfigniting.

Danger of explosion: Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

Explosion limits:

Lower: 0.8 Vol %

Upper: 7.0 Vol %

Vapour pressure at 20 °C: 5 hPa

Density at 20 °C: 0.90 - 0.91 g/cm³

Relative density: Not determined.

Vapour density: Not determined.

(Contd. on page 6)

Trade name: HFA 4114

(Contd. of page 5)

- | | |
|---|--|
| · Evaporation rate | Not determined. |
| · Solubility in / Miscibility with water: | Not miscible or difficult to mix. |
| · Partition coefficient (n-octanol/water): | Not determined. |
| · Viscosity: | |
| Dynamic: | Not determined. |
| Kinematic at 20 °C: | 112 mm ² /s |
| · 9.2 Other information | No further relevant information available. |

SECTION 10: Stability and reactivity

- **10.1 Reactivity**
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** Sources of ignition (open flame, warm surfaces, sparks)
- **10.4 Conditions to avoid**
High temperature
Sources of ignition
Avoid the build-up of electrostatic charge
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity:**

- **LD/LC50 values relevant for classification:**

9186-68-5 Hydrocarbons, C9, aromatics

Oral	LD50	> 3500 mg/kg (rat) (OECD TG 401)
Dermal	LD50	> 3000 mg/kg (rat) (OECD TG 402)
Inhalative	LC50/4 h	> 6000 mg/l (rat) (OECD TG 403)

91-20-3 naphthalene

Oral	LD50	490 mg/kg (rat)
Dermal	LD50	5000 mg/kg (rat)

- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Irritant

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.

(Contd. on page 7)

Trade name: HFA 4114

(Contd. of page 6)

- **12.4 Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Toxic for fish
- **Additional ecological information:**
- **General notes:**
 Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
 Do not allow product to reach ground water, water course or sewage system.
 Danger to drinking water if even small quantities leak into the ground.
 Also poisonous for fish and plankton in water bodies.
 Toxic for aquatic organisms
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
 The generation of waste should be avoided or minimised wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of split material and runoff and contact with soil, waterways, drains and sewers.
- **Uncleaned packaging:**
- **Recommendation:**
 Disposal must be made according to official regulations.
 The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

SECTION 14: Transport information

- | | |
|-------------------------------------|--|
| 14.1 UN-Number | |
| ADR, IMDG, IATA | UN1993 |
| 14.2 UN proper shipping name | |
| ADR | 1993 FLAMMABLE LIQUID, N.O.S. (Hydrocarbons, C9, aromatics, KEROSENE), ENVIRONMENTALLY HAZARDOUS |
| IMDG | FLAMMABLE LIQUID, N.O.S. (Hydrocarbons, C9, aromatics, KEROSENE), MARINE POLLUTANT |
| IATA | FLAMMABLE LIQUID, N.O.S. (Hydrocarbons, C9, aromatics, KEROSENE) |

(Contd. on page 8)

Trade name: HFA 4114

(Contd. of page 7)

· **14.3 Transport hazard class(es)**

· **ADR, IMDG**



· **Class** 3 Flammable liquids.
· **Label** 3

· **IATA**



· **Class** 3 Flammable liquids.
· **Label** 3

· **14.4 Packing group**

· **ADR, IMDG, IATA** III

· **14.5 Environmental hazards:** Product contains environmentally hazardous substances: naphthalene, Hydrocarbons, C9, aromatics

· **Marine pollutant:** Yes
Symbol (fish and tree)

· **Special marking (ADR):** Symbol (fish and tree)

· **14.6 Special precautions for user** Warning: Flammable liquids.

· **Danger code (Kemler):** 30

· **EMS Number:** F-E, S-E

· **14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

· **Transport/Additional information:**

· **ADR**

· **Limited quantities (LQ)** 5L

· **Transport category** 3

· **Tunnel restriction code** D/E

· **UN "Model Regulation":** UN1993, FLAMMABLE LIQUID, N.O.S. (Hydrocarbons, C9, aromatics, KEROSENE), ENVIRONMENTALLY HAZARDOUS, 3, III

SECTION 15: Regulatory information

· **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

No further relevant information available.

· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

(Contd. on page 9)

Trade name: HFA 4114

(Contd. of page 8)

· **Relevant phrases**

H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
R10	Flammable.
R20	Harmful by inhalation.
R22	Harmful if swallowed.
R36/37/38	Irritating to eyes, respiratory system and skin.
R37	Irritating to respiratory system.
R40	Limited evidence of a carcinogenic effect.
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R65	Harmful: may cause lung damage if swallowed.
R66	Repeated exposure may cause skin dryness or cracking.
R67	Vapours may cause drowsiness and dizziness.

· **Department issuing MSDS:** Product safety department

· **Contact:** Mr. G.C. Spruijt

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
 IMDG: International Maritime Code for Dangerous Goods
 IATA: International Air Transport Association
 GHS: Globally Harmonized System of Classification and Labelling of Chemicals
 EINECS: European Inventory of Existing Commercial Chemical Substances
 ELINCS: European List of Notified Chemical Substances
 CAS: Chemical Abstracts Service (division of the American Chemical Society)
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent
 Flam. Liq. 3: Flammable liquids, Hazard Category 3
 Acute Tox. 4: Acute toxicity, Hazard Category 4
 Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
 Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2
 Carc. 2: Carcinogenicity, Hazard Category 2
 STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3
 Asp. Tox. 1: Aspiration hazard, Hazard Category 1
 Aquatic Acute 1: Hazardous to the aquatic environment - Acute Hazard, Category 1
 Aquatic Chronic 1: Hazardous to the aquatic environment - Chronic Hazard, Category 1
 Aquatic Chronic 2: Hazardous to the aquatic environment - Chronic Hazard, Category 2

· *** Data compared to the previous version altered.** Section 14; adaption of ADR phrase

Annex: Exposure scenario

· **Description of the activities / processes covered in the Exposure Scenario**

See section 1 of the annex to the Safety Data Sheet.

· **Conditions of use**

· **Duration and frequency** 5 workdays/week.

· **Physical parameters**

· **Physical state** Fluid

· **Concentration of the substance in the mixture** The substance is main component.

· **Other operational conditions**

· **Other operational conditions affecting environmental exposure** Use only on hard ground.

· **Other operational conditions affecting consumer exposure**

Keep out of the reach of children.

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Trade name: HFA 4114

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- **Other operational conditions affecting consumer exposure during the use of the product**
Not applicable.
- **Risk management measures**
- **Worker protection**
- **Organisational protective measures** *No special measures required.*
- **Technical protective measures**
*Use product only in enclosed systems.
Ensure that suitable extractors are available on processing machines*
- **Personal protective measures**
*Do not inhale gases / fumes / aerosols.
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.*
- **Measures for consumer protection**
*Ensure adequate labelling.
Keep locked up and out of the reach of children.*
- **Environmental protection measures**
- **Water** *Do not allow to reach sewage system.*
- **Soil** *Prevent contamination of soil.*
- **Disposal measures** *Disposal must be made according to official regulations.*
- **Disposal procedures**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Waste type** *Partially emptied and uncleaned packaging*
- **Exposure estimation**
- **Consumer** *Not relevant for this Exposure Scenario.*
- **Guidance for downstream users** *No further relevant information available.*

GB

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

· **Trade name:** **HFA 4159**

· **1.2 Relevant identified uses of the substance or mixture and uses advised against**
CFPP Improver for gasoil/diesel

· **Sector of Use** SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites

· **Product category** PC13 Fuels

· **Application of the substance / the mixture** Additive

1.3 Details of the supplier of the safety data sheet

· **Manufacturer/Supplier:**

WRT B.V.
Strawinskylaan 3067
1077ZX Amsterdam
The Netherlands
Tel.: 00-31-(0)20-644 2831
Fax.: 00-31-(0)20-642 3962
info@wrtbv.com

· **Further information obtainable from:**

Product Safety Department
Tel.: 00-31-(0)-644 2831
info@wrtbv.com
Support is only given in the following languages: Dutch, English and German

· **1.4 Emergency telephone number:**

Product Safety department
In case of a spill or accident, you can contact us at:
Tel.: 00-31-(0)20-644 2831
During office hours we can be contacted for general information at
Tel.: 00-31-(0)20-6442831
Support is only given in the following languages: Dutch, English, and German

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

· **Classification according to Regulation (EC) No 1272/2008**



GHS02 flame

Flam. Liq. 3 H226 Flammable liquid and vapour.



GHS08 health hazard

Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.



GHS09 environment

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.



GHS07

STOT SE 3 H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.

· **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



Xn; Harmful

R65: Harmful: may cause lung damage if swallowed.

Trade name: HFA 4159

(Contd. of page 1)



Xi; Irritant

R37: Irritating to respiratory system.



N; Dangerous for the environment

R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R10-66-67: Flammable. Repeated exposure may cause skin dryness or cracking. Vapours may cause drowsiness and dizziness.

Information concerning particular hazards for human and environment:

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

Classification system:

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the CLP regulation.

Hazard pictograms



GHS02



GHS07



GHS08



GHS09

Signal word Danger

Hazard-determining components of labelling:

Hydrocarbons, C9, Aromatics

Distillates (petroleum), hydrotreated light

Hazard statements

H226 Flammable liquid and vapour.

H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.

H304 May be fatal if swallowed and enters airways.

H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P241 Use explosion-proof electrical/ventilating/lighting/equipment.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Additional information:

EUH066 Repeated exposure may cause skin dryness or cracking.

2.3 Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

3.2 Chemical characterisation: Mixtures

Description: Mixture of substances listed below with nonhazardous additions.

(Contd. on page 3)

Trade name: HFA 4159

(Contd. of page 2)

Dangerous components:

EC number: 918-668-5 Reg.nr.: 01-2119455851-35	Hydrocarbons, C9, Aromatics ❗ Xi R37; ❗ N R51/53 R10-66-67 ⚠ Flam. Liq. 3, H226; ⚠ Asp. Tox. 1, H304; ⚠ Aquatic Chronic 2, H411; ⚠ STOT SE 3, H335-H336	25 - 50%
CAS: 8008-20-6 EINECS: 232-366-4 Reg.nr.: 01-2119485517-27	Kerosine (petroleum) ❗ Xn R65 ⚠ Flam. Liq. 3, H226; ⚠ Asp. Tox. 1, H304	15 - 30%
CAS: 64742-94-5 EINECS: 265-198-5 Reg.nr.: 01-2119463583-34	Solvent naphtha (petroleum), heavy arom. ❗ Xn R65 ⚠ Asp. Tox. 1, H304	4 - 6%
CAS: 64742-81-0 EINECS: 265-184-9 Reg.nr.: 01-2119462828-25	Kerosine (petroleum), hydrodesulfurized ❗ Xn R65 ⚠ Asp. Tox. 1, H304	1.5 - 5%
CAS: 91-20-3 EINECS: 202-049-5 Reg.nr.: 01-2119561346-37	naphthalene ❗ Xn R22-40; ❗ N R50/53 Carc. Cat. 3 ⚠ Carc. 2, H351; ⚠ Aquatic Acute 1, H400; ⚠ Aquatic Chronic 1, H410; ⚠ Acute Tox. 4, H302	0 - < 1%
CAS: 95-63-6 EINECS: 202-436-9 Reg.nr.: 05-2117202756-46	1,2,4-trimethylbenzene ❗ Xn R20; ❗ Xi R36/37/38; ❗ N R51/53 R10 ⚠ Flam. Liq. 3, H226; ⚠ Aquatic Chronic 2, H411; ⚠ Acute Tox. 4, H332; ⚠ Skin Irrit. 2, H315; ⚠ Eye Irrit. 2, H319; ⚠ STOT SE 3, H335	0 - < 1%
CAS: 108-67-8 EINECS: 203-604-4 Reg.nr.: 01-2119463878-19	mesitylene ❗ Xi R37; ❗ N R51/53 R10 ⚠ Flam. Liq. 3, H226; ⚠ Aquatic Chronic 2, H411; ⚠ STOT SE 3, H335	0.05 - 1%

Additional information: For the wording of the listed risk phrases refer to section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures
After inhalation: Supply fresh air; consult doctor in case of complaints.

After skin contact:

Immediately remove contaminated clothing or footwear

Immediately wash with water and soap and rinse thoroughly.

If skin irritation continues, consult a doctor.

After eye contact:

Check for and remove any contact lenses

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

After swallowing: Rinse mouth (spit), DO NOT induce vomiting and immediately call a physician.

4.2 Most important symptoms and effects, both acute and delayed

Vapors may cause drowsiness and dizziness.

After swallowing the liquid can enter the lungs and cause pulmonary edema.

The symptoms of lung edema can reveal themselves within a few hours or within days. Therefore medical observation is necessary. The liquid can de-grease the skin.

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media
Suitable extinguishing agents:

CO₂, sand, extinguishing powder. Do not use water.

Foam

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Safety data sheet according to 453/2010/EC

Printing date 19.01.2015

Version number 6

Revision: 19.01.2015

Trade name: HFA 4159

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- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **5.2 Special hazards arising from the substance or mixture**
No further relevant information available.
- **5.3 Advice for firefighters**
- **Protective equipment:** No special measures required.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **6.2 Environmental precautions:**
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
Do not flush with water or aqueous cleansing agents
- **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
- **Information about fire - and explosion protection:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep container tightly sealed.
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **8.1 Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists valid during the making were used as basis.
- **8.2 Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.

(Contd. on page 5)

Trade name: HFA 4159

(Contd. of page 4)

· **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

· **Protection of hands:**

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form: Liquid

Colour: Yellowish

· **Odour:** Aromatic

· **Odour threshold:** Not determined.

· **pH-value:** Not determined.

· **Change in condition**

Melting point/Melting range: Undetermined.

Boiling point/Boiling range: 164 °C

· **Pour point** minus 9 °C

· **Flash point:** 52 °C

· **Ignition temperature:** 440 °C

· **Decomposition temperature:** Not determined.

· **Self-igniting:** Product is not selfigniting.

· **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

· **Explosion limits:**

Lower: 0.8 Vol %

Upper: 7.0 Vol %

· **Vapour pressure at 20 °C:** 5 hPa

· **Density at 20 °C:** 0.9 - 0.91 g/cm³

· **Relative density** Not determined.

· **Vapour density** Not determined.

· **Evaporation rate** Not determined.

(Contd. on page 6)

Trade name: HFA 4159

(Contd. of page 5)

- **Solubility in / Miscibility with water:** Not miscible or difficult to mix.
- **Partition coefficient (n-octanol/water):** Not determined.
- **Viscosity:**
 - Dynamic at 20 °C:** 86.01 mPas
 - Kinematic:** Not determined.
- **9.2 Other information** No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity**
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity:**

- **LD/LC50 values relevant for classification:**

91-20-3 naphthalene

Oral	LD50	490 mg/kg (rat)
Dermal	LD50	5000 mg/kg (rat)

Hydrocarbons, C9, Aromatics

Oral	LD50	3592 mg/kg (rat) ((OECD 401))
Dermal	LD50	> 3160 mg/kg (rabbit) ((OECD 402))
Inhalative	LC50/4 h	> 6193 mg/l (rat) ((OECD 403))

- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitisation:** No sensitising effects known.
- **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Irritant

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Toxic for fish

(Contd. on page 7)

Trade name: HFA 4159

(Contd. of page 6)

· **Additional ecological information:**

· **General notes:**

Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
Toxic for aquatic organisms

· **12.5 Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**

· **Recommendation**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packaging:**

· **Recommendation:** Disposal must be made according to official regulations.

SECTION 14: Transport information

· **14.1 UN-Number**

· **ADR, IMDG, IATA**

UN1993

· **14.2 UN proper shipping name**

· **ADR**

1993 FLAMMABLE LIQUID, N.O.S. (KEROSENE, Hydrocarbons, C9, aromatics), ENVIRONMENTALLY HAZARDOUS

· **IMDG**

FLAMMABLE LIQUID, N.O.S. (Hydrocarbons, C9, aromatics, NAPHTHALENE, CRUDE), MARINE POLLUTANT

· **IATA**

FLAMMABLE LIQUID, N.O.S. (Hydrocarbons, C9, aromatics)

· **14.3 Transport hazard class(es)**

· **ADR, IMDG**



· **Class**

3 Flammable liquids.

· **Label**

3

· **IATA**



· **Class**

3 Flammable liquids.

· **Label**

3

(Contd. on page 8)

Trade name: HFA 4159

(Contd. of page 7)

· 14.4 Packing group	
· ADR, IMDG, IATA	III
· 14.5 Environmental hazards:	Product contains environmentally hazardous substances: naphthalene
· Marine pollutant:	Yes
· Special marking (ADR):	Symbol (fish and tree)
· 14.6 Special precautions for user	Warning: Flammable liquids.
· Danger code (Kemler):	30
· EMS Number:	F-E,S-D
· 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	5L
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· Transport category	3
· Tunnel restriction code	D/E
· IMDG	
· Limited quantities (LQ)	5L
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· UN "Model Regulation":	UN1993, FLAMMABLE LIQUID, N.O.S. (KEROSENE, Hydrocarbons, C9, aromatics), ENVIRONMENTALLY HAZARDOUS, 3, III

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

No further relevant information available.

- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant phrases**

H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer.
H400	Very toxic to aquatic life.

(Contd. on page 9)

Trade name: HFA 4159

(Contd. of page 8)

- H410 Very toxic to aquatic life with long lasting effects.
 H411 Toxic to aquatic life with long lasting effects.
 R10 Flammable.
 R20 Harmful by inhalation.
 R22 Harmful if swallowed.
 R36/37/38 Irritating to eyes, respiratory system and skin.
 R37 Irritating to respiratory system.
 R40 Limited evidence of a carcinogenic effect.
 R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
 R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
 R65 Harmful: may cause lung damage if swallowed.
 R66 Repeated exposure may cause skin dryness or cracking.
 R67 Vapours may cause drowsiness and dizziness.

· **Department issuing MSDS:** Product safety department

· **Contact:** Mr. G.C. Spruijt

· **Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
 ICAO: International Civil Aviation Organisation
 ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
 IMDG: International Maritime Code for Dangerous Goods
 IATA: International Air Transport Association
 GHS: Globally Harmonised System of Classification and Labelling of Chemicals
 EINECS: European Inventory of Existing Commercial Chemical Substances
 ELINCS: European List of Notified Chemical Substances
 CAS: Chemical Abstracts Service (division of the American Chemical Society)
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent
 Flam. Liq. 3: Flammable liquids, Hazard Category 3
 Acute Tox. 4: Acute toxicity, Hazard Category 4
 Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
 Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2
 Carc. 2: Carcinogenicity, Hazard Category 2
 STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3
 Asp. Tox. 1: Aspiration hazard, Hazard Category 1
 Aquatic Acute 1: Hazardous to the aquatic environment - Acute Hazard, Category 1
 Aquatic Chronic 1: Hazardous to the aquatic environment - Chronic Hazard, Category 1
 Aquatic Chronic 2: Hazardous to the aquatic environment - Chronic Hazard, Category 2

GB

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name: **HFA 4314**

1.2 Relevant identified uses of the substance or mixture and uses advised against
CFPP Improver for gasoil/diesel

Sector of Use SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites

Product category PC13 Fuels

Application of the substance / the mixture Additive

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

WRT B.V.
Strawinskylaan 3067
1077ZX Amsterdam
The Netherlands
Tel.: 00-31-(0)20-644 2831
Fax.: 00-31-(0)20-642 3962
info@wrtbv.com

Further information obtainable from:

Product Safety Department
Tel.: 00-31-(0)-644 2831
info@wrtbv.com
Support is only given in the following languages: Dutch, English and German

1.4 Emergency telephone number:

Product Safety department
In case of a spill or accident, you can contact us at:
Tel.: 00-31-(0)20-644 2831
During office hours we can be contacted for general information at
Tel.: 00-31-(0)20-6442831
Support is only given in the following languages: Dutch, English, and German

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008



GHS02 flame

Flam. Liq. 2 H225 Highly flammable liquid and vapour.



GHS08 health hazard

Carc. 2 H351 Suspected of causing cancer.
Repr. 2 H361d Suspected of damaging the unborn child.
STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.
Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.



GHS09 environment

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Trade name: HFA 4314

(Contd. of page 1)

STOT SE 3 H336 May cause drowsiness or dizziness.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC



Xn; Harmful

R40-48/20-63-65: Limited evidence of a carcinogenic effect. Harmful: danger of serious damage to health by prolonged exposure through inhalation. Possible risk of harm to the unborn child. Harmful: may cause lung damage if swallowed.



Xi; Irritant

R38: Irritating to skin.



F; Highly flammable

R11: Highly flammable.



N; Dangerous for the environment

R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R67: Vapours may cause drowsiness and dizziness.

Information concerning particular hazards for human and environment:

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

Classification system:

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the CLP regulation.

Hazard pictograms



GHS02



GHS07



GHS08



GHS09

Signal word Danger

Hazard-determining components of labelling:

Toluene

naphthalene

Extracts (petroleum), heavy naphtha solvent

Hazard statements

H225 Highly flammable liquid and vapour.

H315 Causes skin irritation.

H351 Suspected of causing cancer.

H361d Suspected of damaging the unborn child.

H336 May cause drowsiness or dizziness.

H373 May cause damage to organs through prolonged or repeated exposure.

H304 May be fatal if swallowed and enters airways.

H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P103 Read label before use.

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P241 Use explosion-proof electrical/ventilating/lighting/equipment.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

(Contd. on page 3)

Trade name: HFA 4314

(Contd. of page 2)

P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

- **3.2 Chemical characterisation: Mixtures**
- **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**

CAS: 108-88-3 EINECS: 203-625-9 Reg.nr.: 01-2119471310-51	Toluene Xn R48/20-63-65; Xi R38; F R11 R67 Repr. Cat. 3 Flam. Liq. 2, H225; Repr. 2, H361d; STOT RE 2, H373; Asp. Tox. 1, H304; Skin Irrit. 2, H315; STOT SE 3, H336	20 - 45%
CAS: 64741-98-6 EINECS: 265-099-7	Extracts (petroleum), heavy naphtha solvent Xn R65 Asp. Tox. 1, H304	8 - 15%
CAS: 91-20-3 EINECS: 202-049-5 Reg.nr.: 01-2119561346-37	naphthalene Xn R22-40; N R50/53 Carc. Cat. 3 Carc. 2, H351; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Acute Tox. 4, H302	1.5 - 3%
CAS: 95-63-6 EINECS: 202-436-9	1,2,4-trimethylbenzene Xn R20; Xi R36/37/38; N R51/53 R10 Flam. Liq. 3, H226; Aquatic Chronic 2, H411; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	0.5 - 1.5%

- **Additional information:** For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **General information:**
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** If symptoms persist consult doctor.
- **4.2 Most important symptoms and effects, both acute and delayed**
No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:** CO₂, sand, extinguishing powder. Do not use water.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet

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Trade name: HFA 4314

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· **5.2 Special hazards arising from the substance or mixture**

No further relevant information available.

· **5.3 Advice for firefighters**

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from the fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

· **Protective equipment:** No special measures required.

SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

· **6.2 Environmental precautions:**

Do not allow product to reach sewage system or any water course.

Inform respective authorities in case of seepage into water course or sewage system.

Do not allow to enter sewers/ surface or ground water.

· **6.3 Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Do not flush with water or aqueous cleansing agents

· **6.4 Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

· **Information about fire - and explosion protection:**

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

· **7.2 Conditions for safe storage, including any incompatibilities**

· **Storage:**

· **Requirements to be met by storerooms and receptacles:** Store in a cool location.

· **Information about storage in one common storage facility:** Not required.

· **Further information about storage conditions:**

Keep container tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

· **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· **Additional information about design of technical facilities:** No further data; see item 7.

· **8.1 Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

108-88-3 Toluene

WEL Short-term value: 384 mg/m³, 100 ppm

Long-term value: 191 mg/m³, 50 ppm

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95-63-6 1,2,4-trimethylbenzene

WEL	Long-term value: 125 mg/m ³ , 25 ppm
ILV	

· **Additional information:** The lists valid during the making were used as basis.

· **8.2 Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the skin.

Avoid contact with the eyes and skin.

· **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form: Liquid

Colour: Light brown

· **Odour:** Aromatic

· **Odour threshold:** Not determined.

· **pH-value:** Not determined.

· **Change in condition**

Melting point/Melting range: Undetermined.

Boiling point/Boiling range: 110 °C

· **Pour point** minus 9 °C

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· Flash point:	21 °C
· Flammability (solid, gaseous):	Not applicable.
· Ignition temperature:	535 °C
· Decomposition temperature:	Not determined.
· Self-igniting:	Product is not selfigniting.
· Danger of explosion:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· Explosion limits:	
Lower:	1.2 Vol %
Upper:	7.0 Vol %
· Vapour pressure at 20 °C:	29 hPa
· Density at 15 °C:	0.88 -0.9 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with water:	Not miscible or difficult to mix.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic at 40 °C:	24.96 mm ² /s
Kinematic:	Not determined.
· 9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity** Based on available data, the classification criteria are not met.

· LD/LC50 values relevant for classification:

108-88-3 Toluene

Oral	LD50	5000 mg/kg (rat)
Dermal	LD50	12124 mg/kg (rabbit)
Inhalative	LC50/4 h	5320 mg/l (mouse)

91-20-3 naphthalene

Oral	LD50	490 mg/kg (rat)
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Dermal	LD50	5000 mg/kg (rat)
--------	------	------------------

- **Primary irritant effect:**
- **Skin corrosion/irritation**
Causes skin irritation.
- **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity**
Suspected of causing cancer.
- **Reproductive toxicity**
Suspected of damaging the unborn child.
- **STOT-single exposure**
May cause drowsiness or dizziness.
- **STOT-repeated exposure**
May cause damage to organs through prolonged or repeated exposure.
- **Aspiration hazard**
May be fatal if swallowed and enters airways.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Toxic for fish
- **Additional ecological information:**
- **General notes:**
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
Toxic for aquatic organisms
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.




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SECTION 14: Transport information

· 14.1 UN-Number	
· ADR, IMDG, IATA	UN1993
· 14.2 UN proper shipping name	
· ADR	1993 FLAMMABLE LIQUID, N.O.S. (TOLUENE), ENVIRONMENTALLY HAZARDOUS
· IMDG	FLAMMABLE LIQUID, N.O.S. (TOLUENE, NAPHTHALENE, CRUDE), MARINE POLLUTANT
· IATA	FLAMMABLE LIQUID, N.O.S. (TOLUENE)
· 14.3 Transport hazard class(es)	
· ADR, IMDG	
	 
· Class	3 Flammable liquids.
· Label	3
· IATA	
	
· Class	3 Flammable liquids.
· Label	3
· 14.4 Packing group	
· ADR, IMDG, IATA	II
· 14.5 Environmental hazards:	Product contains environmentally hazardous substances: naphthalene
· Marine pollutant:	Yes Symbol (fish and tree)
· Special marking (ADR):	Symbol (fish and tree)
· 14.6 Special precautions for user	Warning: Flammable liquids.
· Danger code (Kemler):	33
· EMS Number:	F-E, S-E
· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	1L
· Transport category	2
· Tunnel restriction code	D/E
· UN "Model Regulation":	UN1993, FLAMMABLE LIQUID, N.O.S. (TOLUENE), ENVIRONMENTALLY HAZARDOUS, 3, II

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SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3, 48
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant phrases**

- | | |
|-----------|--|
| H225 | Highly flammable liquid and vapour. |
| H226 | Flammable liquid and vapour. |
| H302 | Harmful if swallowed. |
| H304 | May be fatal if swallowed and enters airways. |
| H315 | Causes skin irritation. |
| H319 | Causes serious eye irritation. |
| H332 | Harmful if inhaled. |
| H335 | May cause respiratory irritation. |
| H336 | May cause drowsiness or dizziness. |
| H351 | Suspected of causing cancer. |
| H361d | Suspected of damaging the unborn child. |
| H373 | May cause damage to organs through prolonged or repeated exposure. |
| H400 | Very toxic to aquatic life. |
| H410 | Very toxic to aquatic life with long lasting effects. |
| H411 | Toxic to aquatic life with long lasting effects. |
| | |
| R10 | Flammable. |
| R11 | Highly flammable. |
| R20 | Harmful by inhalation. |
| R22 | Harmful if swallowed. |
| R36/37/38 | Irritating to eyes, respiratory system and skin. |
| R38 | Irritating to skin. |
| R40 | Limited evidence of a carcinogenic effect. |
| R48/20 | Harmful: danger of serious damage to health by prolonged exposure through inhalation. |
| R50/53 | Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. |
| R51/53 | Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. |
| R63 | Possible risk of harm to the unborn child. |
| R65 | Harmful: may cause lung damage if swallowed. |
| R67 | Vapours may cause drowsiness and dizziness. |

· **Department issuing SDS:** Product safety department

· **Contact:** Mr. G.C. Spruijt

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
 IMDG: International Maritime Code for Dangerous Goods
 IATA: International Air Transport Association
 GHS: Globally Harmonised System of Classification and Labelling of Chemicals
 EINECS: European Inventory of Existing Commercial Chemical Substances
 ELINCS: European List of Notified Chemical Substances
 CAS: Chemical Abstracts Service (division of the American Chemical Society)
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent
 PBT: Persistent, Bioaccumulative and Toxic
 vPvB: very Persistent and very Bioaccumulative
 Flam. Liq. 2: Flammable liquids – Category 2
 Flam. Liq. 3: Flammable liquids – Category 3
 Acute Tox. 4: Acute toxicity – Category 4
 Skin Irrit. 2: Skin corrosion/irritation – Category 2
 Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
 Carc. 2: Carcinogenicity – Category 2
 Repr. 2: Reproductive toxicity – Category 2
 STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
 STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2
 Asp. Tox. 1: Aspiration hazard – Category 1
 Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1

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Revision: 26.08.2015

Trade name: HFA 4314

Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1
Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2

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— GB —

1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
- **Trade name:** HFA 4326
- **Relevant identified uses of the substance or mixture and uses advised against**
- **Sector of Use** Oil industry
- **Application of the substance / the preparation** CFPP Improver
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
WRT B.V.
Strawinskylaan 3067
1077ZX Amsterdam
The Netherlands
Tel.: 00-31-(0)20-644 2831
Fax.: 00-31-(0)20-642 3962
info@wrtbv.com
- **Further information obtainable from:**
Product Safety Department
Tel.: 00-31-(0)-644 2831
info@wrtbv.com
Support is only given in the following languages: Dutch, English and German
- **Emergency telephone number:**
Product Safety department
In case of a spill or accident, you can contact us at:
Tel.: 00-31-(0)20-644 2831
During office hours we can be contacted for general information at
Tel.: 00-31-(0)20-6442831
Support is only given in the following languages: Dutch, English, and German

2 Hazards identification

- **Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS02 flame

Flam. Liq. 3 H226 Flammable liquid and vapour.



GHS08 health hazard

Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



Xn; Harmful

R65: Harmful: may cause lung damage if swallowed.

R10: Flammable.

- **Information concerning particular hazards for human and environment:**

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

- **Classification system:**

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

- **Label elements**

- **Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the CLP regulation.

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· **Hazard pictograms**

GHS02 GHS08

· **Signal word** *Danger*· **Hazard-determining components of labelling:***Kerosine (petroleum)*· **Hazard statements***H226 Flammable liquid and vapour.**H304 May be fatal if swallowed and enters airways.*· **Precautionary statements***P101 If medical advice is needed, have product container or label at hand.**P102 Keep out of reach of children.**P103 Read label before use.**P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.**P241 Use explosion-proof electrical/ventilating/lighting/equipment.**P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.**P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.**P405 Store locked up.**P501 Dispose of contents/container in accordance with local/regional/national/international regulations.*· **Other hazards**· **Results of PBT and vPvB assessment**· **PBT:** Not applicable.· **vPvB:** Not applicable.

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**· **Description:** Mixture of substances listed below with nonhazardous additions.· **Dangerous components:**

CAS: 8008-20-6	Kerosine (petroleum)	40 - 60%
EINECS: 232-366-4	Xn R65	
	Flam. Liq. 3, H226; Asp. Tox. 1, H304	

· **Additional information:** For the wording of the listed risk phrases refer to section 16.

4 First aid measures

· **Description of first aid measures**· **After inhalation:** Supply fresh air; consult doctor in case of complaints.· **After skin contact:** Generally the product does not irritate the skin.· **After eye contact:** Rinse opened eye for several minutes under running water.· **After swallowing:** If symptoms persist consult doctor.· **Information for doctor:**· **Most important symptoms and effects, both acute and delayed**

No further relevant information available.

· **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

Printing date 14.01.2013

Revision: 14.10.2012

Trade name: HFA 4326

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5 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** CO₂, sand, extinguishing powder. Do not use water.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture**
No further relevant information available.
- **Advice for firefighters**
Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from the fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
Do not flush with water or aqueous cleansing agents
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
- **Information about fire - and explosion protection:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep container tightly sealed.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists valid during the making were used as basis.

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· **Exposure controls**· **Personal protective equipment:**· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Wash hands before breaks and at the end of work.

· **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

· **Protection of hands:**

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**

Tightly sealed goggles

9 Physical and chemical properties

· **Information on basic physical and chemical properties**· **General Information**· **Appearance:****Form:** Liquid**Colour:** Light yellow· **Odour:** Aromatic· **Odour threshold:** Not determined.· **pH-value:** Not determined.· **Change in condition****Melting point/Melting range:** Undetermined.**Boiling point/Boiling range:** 175 °C· **Flash point:** 46 °C· **Flammability (solid, gaseous):** Not applicable.· **Ignition temperature:****Decomposition temperature:** Not determined.· **Self-igniting:** Product is not selfigniting.· **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.· **Explosion limits:****Lower:** Not determined.**Upper:** Not determined.

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· Vapour pressure:	Not determined.
· Density at 20 °C:	0.917 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with water:	Not miscible or difficult to mix.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	0.0 %
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water

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Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Results of PBT and vPvB assessment· **PBT:** Not applicable.· **vPvB:** Not applicable.· **Other adverse effects** No further relevant information available.**13 Disposal considerations**· **Waste treatment methods**· **Recommendation**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packaging:**· **Recommendation:** Disposal must be made according to official regulations.**14 Transport information**· **UN-Number**· **ADR, IMDG, IATA**

UN1993

· **UN proper shipping name**· **ADR**

1993 FLAMMABLE LIQUID, N.O.S., solution

· **IMDG, IATA**

FLAMMABLE LIQUID, N.O.S., solution

· **Transport hazard class(es)**· **ADR, IMDG, IATA**· **Class**

3 Flammable liquids.

· **Label**

3

· **Packing group**· **ADR, IMDG, IATA**

III

· **Environmental hazards:**· **Marine pollutant:**

No

· **Special precautions for user**

Warning: Flammable liquids.

· **Danger code (Kemler):**

30

· **EMS Number:**

F-E,S-E

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable.

· **Transport/Additional information:**· **ADR**· **Limited quantities (LQ)**

5L

· **Transport category**

3

· **Tunnel restriction code**

D/E

· **UN "Model Regulation":**

UN1993, FLAMMABLE LIQUID, N.O.S., solution, 3, III

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15 Regulatory information

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant phrases**

H226 Flammable liquid and vapour.

H304 May be fatal if swallowed and enters airways.

R65 Harmful: may cause lung damage if swallowed.

- **Department issuing MSDS:** Product safety department

- **Contact:** Mr. G.C. Spruijt

- **Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organization

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

GB

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name: **HFA 4454**

1.2 Relevant identified uses of the substance or mixture and uses advised against
CFPP Improver for gasoil/diesel

Sector of Use SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites

Product category PC13 Fuels

Application of the substance / the mixture Additive

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

WRT B.V.

Strawinskylaan 3067

1077ZX Amsterdam

The Netherlands

Tel.: 00-31-(0)20-644 2831

Fax.: 00-31-(0)20-642 3962

info@wrtbv.com

Further information obtainable from:

Product Safety Department

Tel.: 00-31-(0)-644 2831

info@wrtbv.com

Support is only given in the following languages: Dutch, English and German

1.4 Emergency telephone number:

Product Safety department

In case of a spill or accident, you can contact us at:

Tel.: 00-31-(0)20-644 2831

During office hours we can be contacted for general information at

Tel.: 00-31-(0)20-6442831

Support is only given in the following languages: Dutch, English, and German

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008



GHS02 flame

Flam. Liq. 3 H226 Flammable liquid and vapour.



GHS08 health hazard

Repr. 2 H361d Suspected of damaging the unborn child.

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC



Xn; Harmful

R65: Harmful: may cause lung damage if swallowed.



Xi; Irritant

R37: Irritating to respiratory system.

(Contd. on page 2)

Trade name: HFA 4454

(Contd. of page 1)



N; Dangerous for the environment

R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R10-67: Flammable. Vapours may cause drowsiness and dizziness.

Information concerning particular hazards for human and environment:

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

Classification system:

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

2.2 Label elements
Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the CLP regulation.

Hazard pictograms


GHS02



GHS07



GHS08

Signal word Warning

Hazard-determining components of labelling:

toluene

Hazard statements

H226 Flammable liquid and vapour.

H315 Causes skin irritation.

H361d Suspected of damaging the unborn child.

H373 May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P103 Read label before use.

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P241 Use explosion-proof electrical/ventilating/lighting/equipment.

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards
Results of PBT and vPvB assessment
PBT: Not applicable.

vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

3.2 Chemical characterization: Mixtures
Description: Mixture of substances listed below with nonhazardous additions.

Dangerous components:

(Contd. on page 3)

Trade name: HFA 4454

(Contd. of page 2)

CAS: 108-88-3 EINECS: 203-625-9 Reg.nr.: 01-2119471310-51	toluene Xn R48/20-63-65; Xi R38; F R11 R67 Repr. Cat. 3 Flam. Liq. 2, H225; Repr. 2, H361d; STOT RE 2, H373; Asp. Tox. 1, H304; Skin Irrit. 2, H315; STOT SE 3, H336	5 - 12%
CAS: 8008-20-6 EINECS: 232-366-4 Reg.nr.: 01-2119485517-27	Kerosine (petroleum) Xn R65 Flam. Liq. 3, H226; Asp. Tox. 1, H304	15 - 30%
CAS: 64742-94-5 EINECS: 265-198-5 Reg.nr.: 01-2119463583-34	Solvent naphtha (petroleum), heavy arom. Xn R65 Asp. Tox. 1, H304	4 - 6%
CAS: 64742-81-0 EINECS: 265-184-9 Reg.nr.: 01-2119462828-25	Kerosine (petroleum), hydrodesulfurized Xn R65 Asp. Tox. 1, H304	1.5 - 5%
CAS: 91-20-3 EINECS: 202-049-5 Reg.nr.: 01-2119561346-37	naphthalene Xn R22-40; N R50/53 Carc. Cat. 3 Carc. 2, H351; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Acute Tox. 4, H302	0 - < 1%
CAS: 95-63-6 EINECS: 202-436-9 Reg.nr.: 05-2117202756-46	1,2,4-trimethylbenzene Xn R20; Xi R36/37/38; N R51/53 R10 Flam. Liq. 3, H226; Aquatic Chronic 2, H411; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	0 - < 1%
CAS: 108-67-8 EINECS: 203-604-4 Reg.nr.: 01-2119463878-19	mesitylene Xi R37; N R51/53 R10 Flam. Liq. 3, H226; Aquatic Chronic 2, H411; STOT SE 3, H335	0.05 - 1%

· **Additional information:** For the wording of the listed risk phrases refer to section 16.

SECTION 4: First aid measures

· 4.1 Description of first aid measures

· General information:

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

· **After inhalation:** Supply fresh air; consult doctor in case of complaints.

· **After skin contact:** Immediately remove contaminated clothing or footwear

· After eye contact:

Check for and remove any contact lenses

Rinse opened eye for several minutes under running water. Then consult a doctor.

· After swallowing:

If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed persons feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that the vomit does not enter the lungs. Get medical attention if adverse health persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

· 4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

· 4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

GB

(Contd. on page 4)

Trade name: HFA 4454

(Contd. of page 3)

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:**
Foam
CO₂, sand, extinguishing powder. Do not use water.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **5.2 Special hazards arising from the substance or mixture**
In case of fire, the following can be released:
Carbon dioxide (CO₂)
Carbon monoxide (CO)
- **5.3 Advice for firefighters**
Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from the fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
- **Protective equipment:**
Wear impervious clothing and self contained breathing apparatus. Use water to keep fire-exposed containers cool. If a leak or spill has not ignited use water spray to disperse the vapours and to provide protection for personnel attempting to stop a leak. Take care not to spread the fire with water. Contain fire-fighting water to prevent ingress to watercourses as it will cause oil pollution.
- **Additional information**
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
Do not flush with water or aqueous cleansing agents
- **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
- **Information about fire - and explosion protection:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep container tightly sealed.
- **7.3 Specific end use(s)** No further relevant information available.

GB

(Contd. on page 5)

Trade name: HFA 4454

(Contd. of page 4)

SECTION 8: Exposure controls/personal protection

· **Additional information about design of technical facilities:** No further data; see item 7.

· **8.1 Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

· **Additional information:** The lists valid during the making were used as basis.

· **8.2 Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Wash hands before breaks and at the end of work.

· **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

· **Protection of hands:**

PVA gloves



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

Nitrile rubber, NBR

Butyl rubber, BR

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

· **Body protection:** Protective work clothing

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form:

Liquid

Colour:

Yellowish

· **Odour:**

Aromatic

· **Odour threshold:**

Not determined.

· **pH-value:**

Not applicable.

(Contd. on page 6)

Trade name: HFA 4454

(Contd. of page 5)

· Change in condition	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	129.5 - 354 °C
· Pour point	27 °C
· Flash point:	48 °C
· Flammability (solid, gaseous):	Not applicable.
· Ignition temperature:	440 °C
· Decomposition temperature:	Not applicable
· Self-igniting:	Product is not selfigniting.
· Danger of explosion:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
· Vapour pressure at 20 °C:	5 hPa
· Density at 15 °C:	0.9 - 0.92 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with water:	Not miscible or difficult to mix.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic at 40 °C:	853.2 mPas
Kinematic:	Not determined.
· 9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity**
- **10.2 Chemical stability** *Stable under normal conditions*
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** *No dangerous reactions known.*
- **10.4 Conditions to avoid**
High temperature
Sources of ignition
Avoid the build-up of electrostatic charge
- **10.5 Incompatible materials:**
-acids
-alkalis
-oxidizing materials
-reducing materials
- **10.6 Hazardous decomposition products:** *No dangerous decomposition products known.*

GB

(Contd. on page 7)

Trade name: HFA 4454

(Contd. of page 6)

SECTION 11: Toxicological information

· 11.1 Information on toxicological effects

· Acute toxicity:

· LD/LC50 values relevant for classification:

91-20-3 naphthalene

Oral	LD50	490 mg/kg (rat)
Dermal	LD50	5000 mg/kg (rat)

· Primary irritant effect:

· **on the skin:** No irritant effect.

· **on the eye:** No irritating effect.

· **Sensitization:** No sensitizing effects known.

· Additional toxicological information:

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

· CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Repr. 2

SECTION 12: Ecological information

· 12.1 Toxicity

· **Aquatic toxicity:** No further relevant information available.

· **12.2 Persistence and degradability** No further relevant information available.

· **12.3 Bioaccumulative potential** No further relevant information available.

· **12.4 Mobility in soil** No further relevant information available.

· Additional ecological information:

· General notes:

Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into the ground.

· 12.5 Results of PBT and vPvB assessment

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

· 13.1 Waste treatment methods

· Recommendation

The generation of waste should be avoided or minimised wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of split material and runoff and contact with soil, waterways, drains and sewers. Must not be disposed together with household garbage. Do not allow product to reach sewage system.

(Contd. on page 8)

Trade name: HFA 4454

(Contd. of page 7)

· **Uncleaned packaging:**

· **Recommendation:**

The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

SECTION 14: Transport information

· **14.1 UN-Number**

· **ADR, IMDG, IATA** UN1993

· **14.2 UN proper shipping name**

· **ADR** 1993 FLAMMABLE LIQUID, N.O.S. (TOLUENE)

· **IMDG, IATA** FLAMMABLE LIQUID, N.O.S. (TOLUENE)

· **14.3 Transport hazard class(es)**

· **ADR, IMDG, IATA**

· **Class** 3 Flammable liquids.

· **Label** 3

· **14.4 Packing group**

· **ADR, IMDG, IATA** III

· **14.5 Environmental hazards:**

· **Marine pollutant:** No
No

· **14.6 Special precautions for user** Warning: Flammable liquids.

· **Danger code (Kemler):** 3

· **EMS Number:** F-E,S-D

· **14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable.

· **Transport/Additional information:**

· **ADR**

· **Limited quantities (LQ)** 5L

· **Excepted quantities (EQ)** Code: E1
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 1000 ml

· **Transport category** 3

· **Tunnel restriction code** D/E

· **IMDG**

· **Limited quantities (LQ)** 0

· **Excepted quantities (EQ)** Code: E0
Not permitted as Excepted Quantity

· **UN "Model Regulation":** UN1993, FLAMMABLE LIQUID, N.O.S. (TOLUENE), 3, III

GB

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SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

No further relevant information available.

15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Relevant phrases

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer.
H361d	Suspected of damaging the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
R10	Flammable.
R11	Highly flammable.
R20	Harmful by inhalation.
R22	Harmful if swallowed.
R36/37/38	Irritating to eyes, respiratory system and skin.
R37	Irritating to respiratory system.
R38	Irritating to skin.
R40	Limited evidence of a carcinogenic effect.
R48/20	Harmful: danger of serious damage to health by prolonged exposure through inhalation.
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R63	Possible risk of harm to the unborn child.
R65	Harmful: may cause lung damage if swallowed.
R67	Vapours may cause drowsiness and dizziness.

Department issuing MSDS: Product safety department

Contact: Mr. G.C. Spruijt

Abbreviations and acronyms:

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
 ICAO: International Civil Aviation Organization
 ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
 IMDG: International Maritime Code for Dangerous Goods
 IATA: International Air Transport Association
 GHS: Globally Harmonized System of Classification and Labelling of Chemicals
 EINECS: European Inventory of Existing Commercial Chemical Substances
 ELINCS: European List of Notified Chemical Substances
 CAS: Chemical Abstracts Service (division of the American Chemical Society)
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent
 Flam. Liq. 2: Flammable liquids, Hazard Category 2
 Flam. Liq. 3: Flammable liquids, Hazard Category 3
 Acute Tox. 4: Acute toxicity, Hazard Category 4
 Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
 Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2
 Carc. 2: Carcinogenicity, Hazard Category 2
 Repr. 2: Reproductive toxicity, Hazard Category 2
 STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3
 STOT RE 2: Specific target organ toxicity - Repeated exposure, Hazard Category 2

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Asp. Tox. 1: Aspiration hazard, Hazard Category 1
Aquatic Acute 1: Hazardous to the aquatic environment - AcuteHazard, Category 1
Aquatic Chronic 1: Hazardous to the aquatic environment - Chronic Hazard, Category 1
Aquatic Chronic 2: Hazardous to the aquatic environment - Chronic Hazard, Category 2

— GB —

1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
- **Trade name:** **HFA 4482**
- **Relevant identified uses of the substance or mixture and uses advised against**
CFPP Improver for gasoil/diesel
- **Sector of Use** SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites
- **Product category** PC13 Fuels
- **Application of the substance / the mixture** Additive
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
WRT B.V.
Strawinskylaan 3067
1077ZX Amsterdam
The Netherlands
Tel.: 00-31-(0)20-644 2831
Fax.: 00-31-(0)20-642 3962
info@wrtbv.com
- **Further information obtainable from:**
Product Safety Department
Tel.: 00-31-(0)-644 2831
info@wrtbv.com
Support is only given in the following languages: Dutch, English and German
- **Emergency telephone number:**
Product Safety department
In case of a spill or accident, you can contact us at:
Tel.: 00-31-(0)20-644 2831
During office hours we can be contacted for general information at
Tel.: 00-31-(0)20-6442831
Support is only given in the following languages: Dutch, English, and German

2 Hazards identification

- **Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS02 flame

Flam. Liq. 3 H226 Flammable liquid and vapour.



GHS08 health hazard

Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**

R10: Flammable.

- **Information concerning particular hazards for human and environment:**

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

- **Classification system:**

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

- **Label elements**

- **Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the CLP regulation.

(Contd. on page 2)

Trade name: HFA 4482

(Contd. of page 1)

Hazard pictograms



GHS02 GHS08

Signal word Danger

Hazard-determining components of labelling:

Kerosine (petroleum)

Hazard statements

H226 Flammable liquid and vapour.

H304 May be fatal if swallowed and enters airways.

Precautionary statements

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P103 Read label before use.

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P241 Use explosion-proof electrical/ventilating/lighting/equipment.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

3 Composition/information on ingredients

Chemical characterization: Mixtures

Description: Mixture of substances listed below with nonhazardous additions.

Dangerous components:

CAS: 8008-20-6	Kerosine (petroleum)	40 - 70%
EINECS: 232-366-4	Xn R65	
Reg.nr.: 01-2119485517-27	Flam. Liq. 3, H226; Asp. Tox. 1, H304	

Additional information: For the wording of the listed risk phrases refer to section 16.

4 First aid measures

Description of first aid measures

General information:

Immediately remove any clothing soiled by the product.

Do not leave affected persons unattended.

After inhalation: Supply fresh air; consult doctor in case of complaints.

After skin contact: Generally the product does not irritate the skin.

After eye contact: Rinse opened eye for several minutes under running water.

After swallowing: If symptoms persist consult doctor.

Information for doctor:

Most important symptoms and effects, both acute and delayed

No further relevant information available.

(Contd. on page 3)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 20.03.2014

Version number 2

Revision: 20.03.2014

Trade name: HFA 4482

(Contd. of page 2)

· **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

5 Firefighting measures

· **Extinguishing media**

· **Suitable extinguishing agents:**

CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· **For safety reasons unsuitable extinguishing agents:** Water with full jet

· **Special hazards arising from the substance or mixture**

Carbon monoxide (CO)

Carbon dioxide (CO₂)

· **Advice for firefighters**

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from the fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

· **Protective equipment:**

Wear self-contained respiratory protective device.

Wear fully protective suit.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

· **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.

· **Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Ensure adequate ventilation.

Do not flush with water or aqueous cleansing agents

· **Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage

· **Handling:**

· **Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

· **Information about fire - and explosion protection:**

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

· **Conditions for safe storage, including any incompatibilities**

· **Storage:**

· **Requirements to be met by storerooms and receptacles:**

Store only in the original receptacle.

Protect container from direct sunlight in a dry, cool and well ventilated area, away from incompatible materials and food and drink.

· **Information about storage in one common storage facility:** Store away from foodstuffs.

· **Further information about storage conditions:** Keep container tightly sealed.

· **Specific end use(s)** No further relevant information available.

GB

(Contd. on page 4)

Safety data sheet

according to 1907/2006/EC, Article 31

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8 Exposure controls/personal protection

· **Additional information about design of technical facilities:** No further data; see item 7.

· **Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

· **Additional information:** The lists valid during the making were used as basis.

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:** Wash hands before breaks and at the end of work.

· **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **For the permanent contact gloves made of the following materials are suitable:**

Nitrile rubber, NBR

· **Eye protection:**



Tightly sealed goggles

· **Body protection:** Protective work clothing

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form: Liquid

Colour: Amber coloured

· **Odour:** Aromatic

· **Odour threshold:** Not determined.

· **pH-value:** Not applicable.

· **Change in condition**

Melting point/Melting range: Undetermined.

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Boiling point/Boiling range:	270 °C
· Pour point	minus 12 °C
· Flash point:	45 °C
· Flammability (solid, gaseous):	Not applicable.
· Ignition temperature:	
Decomposition temperature:	Not applicable
· Self-igniting:	Product is not selfigniting.
· Danger of explosion:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
· Vapour pressure:	Not determined.
· Density at 20 °C:	0.90 - 0.91 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with water:	Not miscible or difficult to mix.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic at 20 °C:	50 mm ² /s
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity**
- **Chemical stability** Stable under normal conditions
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid**
High temperature
Sources of ignition
Avoid the build-up of electrostatic charge
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.

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- **Sensitization:** No sensitizing effects known.



12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- | | |
|---|---|
| · UN-Number | UN1993 |
| · ADR, IMDG, IATA | |
| · UN proper shipping name | |
| · ADR | 1993 FLAMMABLE LIQUID, N.O.S. (KEROSENE) |
| · IMDG | FLAMMABLE LIQUID, N.O.S. (KEROSENE), MARINE POLLUTANT |
| · IATA | FLAMMABLE LIQUID, N.O.S. (KEROSENE) |
| · Transport hazard class(es) | |
| · ADR, IMDG | |
|   | |
| · Class | 3 Flammable liquids. |
| · Label | 3 |

(Contd. on page 7)

Trade name: HFA 4482

(Contd. of page 6)

· **IATA**



· **Class** 3 Flammable liquids.
· **Label** 3

· **Packing group**
· **ADR, IMDG, IATA** III

· **Environmental hazards:** Product contains environmentally hazardous substances: Kerosine (petroleum)
· **Marine pollutant:** Yes
· **Special marking (ADR):** Symbol (fish and tree)

· **Special precautions for user** Warning: Flammable liquids.
· **Danger code (Kemler):** 30
· **EMS Number:** F-E,S-E

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

· **Transport/Additional information:**

· **ADR**
· **Limited quantities (LQ)** 5L
· **Transport category** 3
· **Tunnel restriction code** D/E
· **UN "Model Regulation":** UN1993, FLAMMABLE LIQUID, N.O.S. (KEROSENE), 3, III

15 Regulatory information

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant phrases**

H226 Flammable liquid and vapour.

H304 May be fatal if swallowed and enters airways.

R65 Harmful: may cause lung damage if swallowed.

· **Department issuing MSDS:** Product safety department

· **Contact:** Mr. G.C. Spruijt

· **Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organization

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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CAS: Chemical Abstracts Service (division of the American Chemical Society)

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. * **Data compared to the previous version altered.**

Reach registration number added

GB

1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
- **Trade name:** **HFA 4642**
- **Relevant identified uses of the substance or mixture and uses advised against**
- **Sector of Use** Oil Industry
- **Application of the substance / the preparation** CFPP Improver
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
WRT B.V.
Strawinskylaan 3067
1077ZX Amsterdam
The Netherlands
Tel.: 00-31-(0)20-644 2831
Fax.: 00-31-(0)20-642 3962
info@wrtbv.com
- **Further information obtainable from:**
Product Safety Department
Tel.: 00-31-(0)-644 2831
info@wrtbv.com
Support is only given in the following languages: Dutch, English and German
- **Emergency telephone number:**
Product Safety department
In case of a spill or accident, you can contact us at:
Tel.: 00-31-(0)20-644 2831
During office hours we can be contacted for general information at
Tel.: 00-31-(0)20-6442831
Support is only given in the following languages: Dutch, English, and German

2 Hazards identification

- **Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS02 flame

Flam. Liq. 3 H226 Flammable liquid and vapour.



GHS08 health hazard

Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.



GHS09 environment

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.



GHS07

STOT SE 3 H335+H336 May cause respiratory irritation. May cause drowsiness or dizziness.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



Xn; Harmful

R65: Harmful: may cause lung damage if swallowed.

(Contd. on page 2)

Trade name: HFA 4642

(Contd. of page 1)



Xi; Irritant

R37: Irritating to respiratory system.



N; Dangerous for the environment

R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R10-67: Flammable. Vapours may cause drowsiness and dizziness.

· **Information concerning particular hazards for human and environment:**

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

· **Classification system:**

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

· **Label elements**

· **Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the CLP regulation.

· **Hazard pictograms**



GHS02



GHS07



GHS08



GHS09

· **Signal word** Danger

· **Hazard-determining components of labelling:**

Hydrocarbons, C9, aromatics

· **Hazard statements**

H226 Flammable liquid and vapour.

H335+H336 May cause respiratory irritation. May cause drowsiness or dizziness.

H304 May be fatal if swallowed and enters airways.

H411 Toxic to aquatic life with long lasting effects.

· **Precautionary statements**

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P103 Read label before use.

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P241 Use explosion-proof electrical/ventilating/lighting/equipment.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

· **Description:** Mixture of substances listed below with nonhazardous additions.

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Trade name: HFA 4642

(Contd. of page 2)

· Dangerous components:

CAS: 9186-68-5 EC number: 918-668-5	Hydrocarbons, C9, aromatics Xn R65; Xi R37; N R51/53 R10-66-67 Flam. Liq. 3, H226; Asp. Tox. 1, H304; Aquatic Chronic 2, H411; STOT SE 3, H335+H336	40 - 50%
CAS: 64742-94-5 EINECS: 265-198-5	Solvent naphtha (petroleum), heavy arom. Xn R65 Asp. Tox. 1, H304	5 - 8%
CAS: 64742-81-0 EINECS: 265-184-9	Kerosine (petroleum), hydrodesulfurized Xn R65 Asp. Tox. 1, H304	0.5 - 5.5%
CAS: 91-20-3 EINECS: 202-049-5	naphthalene Xn R22-40; N R50/53 Carc. Cat. 3 Carc. 2, H351; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Acute Tox. 4, H302	0.25 - 1.7%
CAS: 95-63-6 EINECS: 202-436-9	1,2,4-trimethylbenzene Xn R20; Xi R36/37/38; N R51/53 R10 Flam. Liq. 3, H226; Aquatic Chronic 2, H411; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	0.25 - 5.5%

· Additional information: For the wording of the listed risk phrases refer to section 16.**4 First aid measures****· Description of first aid measures**

- After inhalation:** Supply fresh air; consult doctor in case of complaints.
- After skin contact:** Generally the product does not irritate the skin.
- After eye contact:** Rinse opened eye for several minutes under running water.
- After swallowing:** If symptoms persist consult doctor.
- Information for doctor:**
- Most important symptoms and effects, both acute and delayed**
No further relevant information available.
- Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Firefighting measures

- Extinguishing media**
- Suitable extinguishing agents:** CO₂, sand, extinguishing powder. Do not use water.
- For safety reasons unsuitable extinguishing agents:** Water with full jet
- Special hazards arising from the substance or mixture**
No further relevant information available.
- Advice for firefighters**
- Protective equipment:** No special measures required.

6 Accidental release measures

- Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- Environmental precautions:**
Do not allow product to reach sewage system or any water course.
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.

(Contd. on page 4)

Trade name: HFA 4642

(Contd. of page 3)

· **Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Do not flush with water or aqueous cleansing agents

· **Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage

· **Handling:**

· **Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

· **Information about fire - and explosion protection:**

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

· **Conditions for safe storage, including any incompatibilities**

· **Storage:**

· **Requirements to be met by storerooms and receptacles:** No special requirements.

· **Information about storage in one common storage facility:** Not required.

· **Further information about storage conditions:** Keep container tightly sealed.

· **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

· **Additional information about design of technical facilities:** No further data; see item 7.

· **Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

· **Additional information:** The lists valid during the making were used as basis.

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

· **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

· **Protection of hands:**

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

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· Eye protection:

Tightly sealed goggles

9 Physical and chemical properties

· Information on basic physical and chemical properties**· General Information****· Appearance:****Form:**

Liquid

Colour:

Light yellow

· Odour:

Petroleum hydrocarbon odour

· Odour threshold:

Not determined.

· pH-value:

Not determined.

· Change in condition**Melting point/Melting range:**

Undetermined.

Boiling point/Boiling range:

164°C

· Flash point:

48°C

· Ignition temperature:

440°C

· Decomposition temperature:

Not determined.

· Self-igniting:

Product is not selfigniting.

· Danger of explosion:

Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

· Explosion limits:**Lower:**

0.8 Vol %

Upper:

7.0 Vol %

· Vapour pressure at 20°C:

5 hPa

· Density:

Not determined.

· Relative density

Not determined.

· Vapour density

Not determined.

· Evaporation rate

Not determined.

· Solubility in / Miscibility with water:

Not miscible or difficult to mix.

· Segregation coefficient (n-octanol/water): Not determined.**· Viscosity:****Dynamic:**

Not determined.

Kinematic:

Not determined.

· Solvent content:**VOC (EC)**

0.75 %

· Other information

No further relevant information available.

GB

(Contd. on page 6)

Trade name: HFA 4642

(Contd. of page 5)

10 Stability and reactivity

- **Reactivity**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· LD/LC50 values relevant for classification:		
9186-68-5 Hydrocarbons, C9, aromatics		
Oral	LD50	> 3500 mg/kg (rat) (OECD TG 401)
Dermal	LD50	> 3000 mg/kg (rat) (OECD TG 402)
Inhalative	LC50/4 h	> 6000 mg/l (rat) (OECD TG 403)
91-20-3 naphthalene		
Oral	LD50	490 mg/kg (rat)
Dermal	LD50	5000 mg/kg (rat)

- **Primary irritant effect:**

- **on the skin:** No irritant effect.

- **on the eye:** No irritating effect.

- **Sensitization:** No sensitizing effects known.

- **Additional toxicological information:**

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

Irritant

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Toxic for fish
- **Additional ecological information:**
- **General notes:**
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
Toxic for aquatic organisms
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

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Trade name: HFA 4642




(Contd. of page 6)

· **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

· UN-Number	
· ADR, IMDG, IATA	1993
· UN proper shipping name	
· ADR	1993 FLAMMABLE LIQUID, N.O.S. (Hydrocarbons, C9, aromatics)
· IMDG, IATA	FLAMMABLE LIQUID, N.O.S. (Hydrocarbons, C9, aromatics)
· Transport hazard class(es)	
· ADR, IMDG	
 	
· Class	3 Flammable liquids.
· Label	3
· IATA	
	
· Class	3 Flammable liquids.
· Label	3
· Packing group	
· ADR, IMDG, IATA	III
· Environmental hazards:	Product contains environmentally hazardous substances: naphthalene, Hydrocarbons, C9, aromatics
· Marine pollutant:	Yes Symbol (fish and tree)
· Special marking (ADR):	Symbol (fish and tree)
· Special precautions for user	Warning: Flammable liquids.
· Danger code (Kemler):	30
· EMS Number:	F-E,S-E
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.

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Trade name: HFA 4642

(Contd. of page 7)

· **Transport/Additional information:**· **ADR**· **Tunnel restriction code**

D/E

· **UN "Model Regulation":**

UN1993, FLAMMABLE LIQUID, N.O.S., 3, III

15 Regulatory information· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.**16 Other information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant phrases**

- H226 Flammable liquid and vapour.
H302 Harmful if swallowed.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
H351 Suspected of causing cancer.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
H411 Toxic to aquatic life with long lasting effects.
- R10 Flammable.
R20 Harmful by inhalation.
R22 Harmful if swallowed.
R36/37/38 Irritating to eyes, respiratory system and skin.
R37 Irritating to respiratory system.
R40 Limited evidence of a carcinogenic effect.
R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R65 Harmful: may cause lung damage if swallowed.
R66 Repeated exposure may cause skin dryness or cracking.
R67 Vapours may cause drowsiness and dizziness.

· **Department issuing MSDS:** Product safety department· **Contact:**

Mr. G.C. Spruijt

Mr. G.C. Spruijt

· **Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: International Civil Aviation Organization
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 18.03.2014

Version number 9

Revision: 13.03.2014

1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
- **Trade name:** **HFA 6014WG**
- **Relevant identified uses of the substance or mixture and uses advised against**
H₂S Scavenger
- **Sector of Use** SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites
- **Product category** PC13 Fuels
- **Application of the substance / the mixture** Additive
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
WRT B.V.
Strawinskylaan 3067
1077 ZX Amsterdam
Nederland
Tel.: +31 (0)20 644 2831
Fascimile: +31 (0)20 642 3962
Email: info@wrtbv.com
- **Further information obtainable from:**
Product Safety Department
Tel.: 00-31-(0)-644 2831
info@wrtbv.com
Support is only given in the following languages: Dutch, English and German
- **Emergency telephone number:**
Product Safety department
In case of a spill or accident, you can contact us at:
Tel.: 00-31-(0)20-644 2831
During office hours we can be contacted for general information at
Tel.: 00-31-(0)20-6442831
Support is only given in the following languages: Dutch, English, and German

2 Hazards identification

- **Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS02 flame

Flam. Liq. 3 H226 Flammable liquid and vapour.



GHS06 skull and crossbones

Acute Tox. 3 H311 Toxic in contact with skin.

Acute Tox. 3 H331 Toxic if inhaled.



GHS08 health hazard

Carc. 2 H351 Suspected of causing cancer.

STOT SE 1 H370 Causes damage to organs.



GHS05 corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.

(Contd. on page 2)

GB

Trade name: HFA 6014WG

(Contd. of page 1)



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Skin Sens. 1 H317 May cause an allergic skin reaction.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC



T; Toxic

R23/24/25-39/23/24/25: Toxic by inhalation, in contact with skin and if swallowed. Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.



C; Corrosive

R34: Causes burns.



Xn; Harmful

R40: Limited evidence of a carcinogenic effect.



Xi; Irritant

R37: Irritating to respiratory system.



Xi; Sensitising

R43: May cause sensitisation by skin contact.



F; Highly flammable

R11: Highly flammable.

Information concerning particular hazards for human and environment:

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

Classification system:

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

Label elements

Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the CLP regulation.

Hazard pictograms



GHS02



GHS05



GHS06



GHS08

Signal word Danger

Hazard-determining components of labelling:

formaldehyde

methanol

Hazard statements

H226 Flammable liquid and vapour.

H302 Harmful if swallowed.

H311 Toxic in contact with skin.

H331 Toxic if inhaled.

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H351 Suspected of causing cancer.

H370 Causes damage to organs.

(Contd. on page 3)

Trade name: HFA 6014WG

(Contd. of page 2)

Precautionary statements

- P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P310 Immediately call a POISON CENTER or doctor/physician.
- P361 Remove/Take off immediately all contaminated clothing.
- P405 Store locked up.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards

Results of PBT and vPvB assessment

- PBT:** Not applicable.
- vPvB:** Not applicable.

3 Composition/information on ingredients

Chemical characterization: Mixtures

- Description:** Mixture of substances listed below with nonhazardous additions.

Dangerous components:

CAS: 50-00-0 EINECS: 200-001-8 Reg.nr.: 01-2119488953-20	formaldehyde T R23/24/25; C R34; Xn R40; Xi R43 Carc. Cat. 3 Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; Carc. 2, H351; Skin Corr. 1B, H314; Skin Sens. 1, H317	25 - 40%
CAS: 67-56-1 EINECS: 200-659-6 Reg.nr.: 01-2119433307-44	methanol T R23/24/25-39/23/24/25; F R11 Flam. Liq. 2, H225; Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; STOT SE 1, H370	5 - 15%

- Additional information:** For the wording of the listed risk phrases refer to section 16.

4 First aid measures

Description of first aid measures

General information:

- Immediately remove any clothing soiled by the product.
- Remove breathing equipment only after contaminated clothing have been completely removed.
- In case of irregular breathing or respiratory arrest provide artificial respiration.

After inhalation:

- Supply fresh air or oxygen; call for doctor.
- In case of unconsciousness place patient stably in side position for transportation.

After skin contact:

- Immediately wash with water and soap and rinse thoroughly.

After eye contact:

- Rinse opened eye for several minutes under running water. Then consult a doctor.

After swallowing:

- Do not induce vomiting; call for medical help immediately.
- Drink plenty of water and provide fresh air. Call for a doctor immediately.

Information for doctor:

Most important symptoms and effects, both acute and delayed

- No further relevant information available.

Hazards

- Danger of pulmonary edema

Indication of any immediate medical attention and special treatment needed

- No further relevant information available.

GB

(Contd. on page 4)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 18.03.2014

Version number 9

Revision: 13.03.2014

Trade name: HFA 6014WG

(Contd. of page 3)

5 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
 - Carbon dioxide
 - Alcohol resistant foam
 - Water haze
 - Fire-extinguishing powder
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture**
 - Carbon monoxide (CO)
 - Can form explosive gas-air mixtures.
- **Advice for firefighters**

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from the fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
 - Ensure adequate ventilation
 - Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
 - Do not allow to enter sewers/ surface or ground water.
 - Inform respective authorities in case of seepage into water course or sewage system.
- **Methods and material for containment and cleaning up:**
 - Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
 - Use neutralizing agent.
 - Dispose contaminated material as waste according to item 13.
 - Ensure adequate ventilation.
 - Do not flush with water or aqueous cleansing agents
- **Reference to other sections**
 - See Section 7 for information on safe handling.
 - See Section 8 for information on personal protection equipment.
 - See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
 - Ensure good ventilation/exhaustion at the workplace.
 - Open and handle receptacle with care.
 - Prevent formation of aerosols.
- **Information about fire - and explosion protection:**
 - Fumes can combine with air to form an explosive mixture.
 - Keep ignition sources away - Do not smoke.
 - Protect against electrostatic charges.
 - Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
 - Suitable material for receptacles and pipes: Aluminium.
 - Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
 - Keep container tightly sealed.
 - Store in cool, dry conditions in well sealed receptacles.

(Contd. on page 5)

Trade name: HFA 6014WG

(Contd. of page 4)

· **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

· **Additional information about design of technical facilities:** No further data; see item 7.

· **Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

50-00-0 formaldehyde

WEL	Short-term value: 2.5 mg/m ³ , 2 ppm Long-term value: 2.5 mg/m ³ , 2 ppm
-----	---

· **Additional information:** The lists valid during the making were used as basis.

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Store protective clothing separately.
Avoid contact with the eyes and skin.

· **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

· **Material of gloves**

Butyl rubber, BR
PVC gloves

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

· **Body protection:** Protective work clothing

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form:	Liquid
Colour:	Colourless
Odour:	Pungent
Odour threshold:	Not determined.

pH-value at 20 °C:	2.8
---------------------------	-----

(Contd. on page 6)

Trade name: HFA 6014WG

(Contd. of page 5)

· Change in condition	
Melting point/Melting range:	-15 °C
Boiling point/Boiling range:	96 °C
· Pour point	< minus 33 °C
· Flash point:	50 °C
· Flammability (solid, gaseous):	Not applicable.
· Ignition temperature:	423 °C
· Decomposition temperature:	Not determined.
· Self-igniting:	Product is not selfigniting.
· Danger of explosion:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· Explosion limits:	
Lower:	7 Vol %
Upper:	73.0 Vol %
· Vapour pressure at 20 °C:	128 hPa
· Density at 20 °C:	1.1 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with water:	Fully miscible.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **Possibility of hazardous reactions**
Develops toxic gases/fumes.
Danger of polymerization.
Reacts with oxidizing agents.
Reacts with acids.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:**
Poisonous gases/vapours
Ethanoic acid

GB

(Contd. on page 7)

Trade name: HFA 6014WG

(Contd. of page 6)

11 Toxicological information

· Information on toxicological effects

· Acute toxicity:

· LD/LC50 values relevant for classification:

50-00-0 formaldehyde

Oral	LD50	>800 mg/kg (rat)
Dermal	LD50	270 mg/kg (rabbit)
Inhalative	LC50	0.6 mg/l (rat)

67-56-1 methanol

Oral	LD50	5628 mg/kg (rat)
Dermal	LD50	15800 mg/kg (rabbit)

· Primary irritant effect:

· **on the skin:** Caustic effect on skin and mucous membranes.

· **on the eye:** Strong caustic effect.

· **Sensitization:** Sensitization possible through skin contact.

· Additional toxicological information:

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

Toxic

Corrosive

Irritant

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

· CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Carc. 2

12 Ecological information

· Toxicity

· Aquatic toxicity:

50-00-0 Formaldehyde

EC50/24h - 42 mg/l (daphnia)

LC50/96h - 24.8 - 100 mg/l (fish)

67-56-1 methanol

EC50 - > 500 mg/l

EC50/24h - 7600 mg/l (daphnia magna)

- 15400 mg/l (leopomis macrochirus)

EC50/48h - > 10000 mg/l (daphnia magna)

LC50/96h - > 7900 mg/l (fish)

· **Persistence and degradability** No further relevant information available.

· **Behaviour in environmental systems:**

· **Bioaccumulative potential** No further relevant information available.

· **Mobility in soil** No further relevant information available.

· Additional ecological information:

· General notes:

Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water

Do not allow product to reach ground water, water course or sewage system.

Must not reach sewage water or drainage ditch undiluted or unneutralized.

Danger to drinking water if even small quantities leak into the ground.

· Results of PBT and vPvB assessment

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

(Contd. on page 8)

Trade name: HFA 6014WG

(Contd. of page 7)

· **Other adverse effects** No further relevant information available.

13 Disposal considerations

· **Waste treatment methods**

· **Recommendation**

The generation of waste should be avoided or minimised wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of split material and runoff and contact with soil, waterways, drains and sewers.

· **Uncleaned packaging:**

· **Recommendation:**

Disposal must be made according to official regulations.

This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have been cleaned or rinsed out. Emptied containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of split material and runoff and contact with soil, waterways, drains and sewers.

14 Transport information

· **UN-Number**

· **ADR, IMDG, IATA**

UN1198

· **UN proper shipping name**

· **ADR**

1198 FORMALDEHYDE SOLUTION, FLAMMABLE

· **IMDG, IATA**

FORMALDEHYDE SOLUTION, FLAMMABLE

· **Transport hazard class(es)**

· **ADR**



· **Class**

3 Flammable liquids.

· **Label**

3+8

· **IMDG, IATA**



· **Class**

3 Flammable liquids.

· **Label**

3 + 8

· **Packing group**

· **ADR, IMDG, IATA**

III

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GB

Trade name: HFA 6014WG

(Contd. of page 8)

· Environmental hazards:	
· Marine pollutant:	No
· Special precautions for user	Warning: Flammable liquids.
· Danger code (Kemler):	38
· EMS Number:	F-A,S-B
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	5L
· Transport category	2
· Tunnel restriction code	D/E
· UN "Model Regulation":	UN1198, FORMALDEHYDE SOLUTION, FLAMMABLE, 3, III

15 Regulatory information

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant phrases**

H225	Highly flammable liquid and vapour.
H301	Toxic if swallowed.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H331	Toxic if inhaled.
H351	Suspected of causing cancer.
H370	Causes damage to organs.
R11	Highly flammable.
R23/24/25	Toxic by inhalation, in contact with skin and if swallowed.
R34	Causes burns.
R39/23/24/25	Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.
R40	Limited evidence of a carcinogenic effect.
R43	May cause sensitisation by skin contact.

- **Department issuing MSDS:** Product safety department

· **Contact:**

Mr. G.C. Spruijt
Mr. G.C. Spruijt

· **Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organization
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)

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Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 18.03.2014

Version number 9

Revision: 13.03.2014

Trade name: HFA 6014WG

LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent

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· *** Data compared to the previous version altered.**
included reach registration numbers of the substances

GB

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

· **Trade name:** **HFA 6062C**

· **1.2 Relevant identified uses of the substance or mixture and uses advised against**
H2S Scavenger

· **Sector of Use** SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites

· **Product category** PC13 Fuels

· **Application of the substance / the mixture** Additive

1.3 Details of the supplier of the safety data sheet

· **Manufacturer/Supplier:**

WRT B.V.

Strawinskylaan 3067

1077ZX Amsterdam

The Netherlands

Tel.: 00-31-(0)20-644 2831

Fax.: 00-31-(0)20-642 3962

info@wrtbv.com

· **Further information obtainable from:**

Product Safety Department

Tel.: 00-31-(0)-644 2831

info@wrtbv.com

Support is only given in the following languages: Dutch, English and German

· **1.4 Emergency telephone number:**

Product Safety department

In case of a spill or accident, you can contact us at:

Tel.: 00-31-(0)20-644 2831

During office hours we can be contacted for general information at

Tel.: 00-31-(0)20-6442831

Support is only given in the following languages: Dutch, English, and German

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

· **Classification according to Regulation (EC) No 1272/2008**



GHS02 flame

Flam. Liq. 3 H226 Flammable liquid and vapour.



GHS06 skull and crossbones

Acute Tox. 3 H311 Toxic in contact with skin.



GHS08 health hazard

Carc. 2 H351 Suspected of causing cancer.

STOT SE 2 H371 May cause damage to organs.



GHS05 corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.

(Contd. on page 2)

GB

Trade name: HFA 6062C

(Contd. of page 1)



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Acute Tox. 4 H332 Harmful if inhaled.

Skin Sens. 1 H317 May cause an allergic skin reaction.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC



T; Toxic

R24: Toxic in contact with skin.



C; Corrosive

R35: Causes severe burns.



Xn; Harmful

R20/22-40-68/20/21/22: Harmful by inhalation and if swallowed. Limited evidence of a carcinogenic effect. Harmful: possible risk of irreversible effects through inhalation, in contact with skin and if swallowed.



Xi; Sensitising

R43: May cause sensitisation by skin contact.

R10: Flammable.

Information concerning particular hazards for human and environment:

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

Classification system:

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the CLP regulation.

Hazard pictograms



GHS02



GHS05



GHS06



GHS08

Signal word Danger

Hazard-determining components of labelling:

formaldehyde
methanol

Hazard statements

H226 Flammable liquid and vapour.

H302 Harmful if swallowed.

H311 Toxic in contact with skin.

H332 Harmful if inhaled.

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H351 Suspected of causing cancer.

H371 May cause damage to organs.

Precautionary statements

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

(Contd. on page 3)

Trade name: HFA 6062C

(Contd. of page 2)

P310 Immediately call a POISON CENTER/doctor.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

- **3.2 Chemical characterisation: Mixtures**
- **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**

CAS: 50-00-0 EINECS: 200-001-8 Reg.nr.: 01-2119488953-20	formaldehyde ☠ T R23/24/25; ☠ C R34; ☠ Xn R40; ☠ Xi R43 Carc. Cat. 3 ⚠ Acute Tox. 3, H301; ⚠ Acute Tox. 3, H311; ⚠ Acute Tox. 3, H331; ⚠ Carc. 2, H351; ⚠ Skin Corr. 1B, H314; ⚠ Skin Sens. 1, H317	15 - 25%
CAS: 64-17-5 EINECS: 200-578-6 Reg.nr.: 01-2119457610-43	Denaturated bioethanol ⚠ F R11 ⚠ Flam. Liq. 2, H225	2.5 - 5%
CAS: 67-56-1 EINECS: 200-659-6 Reg.nr.: 01-2119433307-44	methanol ☠ T R23/24/25-39/23/24/25; ⚠ F R11 ⚠ Flam. Liq. 2, H225; ⚠ Acute Tox. 3, H301; ⚠ Acute Tox. 3, H311; ⚠ Acute Tox. 3, H331; ⚠ STOT SE 1, H370	2 - 3%

- **Additional information:** For the wording of the listed risk phrases refer to section 16.

SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **General information:**
Immediately remove any clothing soiled by the product.
In case of irregular breathing or respiratory arrest provide artificial respiration.
- **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:**
Immediately remove contaminated clothing or footwear
Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
Check for and remove any contact lenses
- **After swallowing:**
If material has been swallowed and the exposed person is conscious, give small quantities of water to drink.
Stop if the exposed persons feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that the vomit does not enter the lungs. Get medical attention if adverse health persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediatly.
Maintain an open airway. Loosen tight clothing such as a collar, tie , belt or waistband.
- **4.2 Most important symptoms and effects, both acute and delayed**
No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

GB

(Contd. on page 4)

Safety data sheet according to 453/2010/EC

Printing date 15.04.2015

Version number 2

Revision: 15.04.2015

Trade name: HFA 6062C

(Contd. of page 3)

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **5.2 Special hazards arising from the substance or mixture**
In case of fire, the following can be released:
Carbon monoxide (CO)
Carbon dioxide (CO₂)
- **5.3 Advice for firefighters**
Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from the fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
- **Protective equipment:**
Wear impervious clothing and self contained breathing apparatus. Use water to keep fire-exposed containers cool. If a leak or spill has not ignited use water spray to disperse the vapours and to provide protection for personnel attempting to stop a leak. Take care not to spread the fire with water. Contain fire-fighting water to prevent ingress to watercourses as it will cause oil pollution.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **6.2 Environmental precautions:**
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
- **Information about fire - and explosion protection:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep container tightly sealed.
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.

(Contd. on page 5)

Trade name: HFA 6062C

(Contd. of page 4)

8.1 Control parameters

Ingredients with limit values that require monitoring at the workplace:

50-00-0 formaldehyde

WEL	Short-term value: 2.5 mg/m ³ , 2 ppm
	Long-term value: 2.5 mg/m ³ , 2 ppm

64-17-5 Denaturated bioethanol

WEL	Long-term value: 1920 mg/m ³ , 1000 ppm
-----	--

67-56-1 methanol

WEL	Short-term value: 333 mg/m ³ , 250 ppm
	Long-term value: 266 mg/m ³ , 200 ppm
Sk	

Additional information: The lists valid during the making were used as basis.

8.2 Exposure controls

Personal protective equipment:

General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.

Respiratory protection:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

For the permanent contact gloves made of the following materials are suitable:

Nitrile rubber, NBR

Eye protection:



Tightly sealed goggles

Body protection: Solvent resistant protective clothing

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information

Appearance:

Form: Liquid

(Contd. on page 6)

Trade name: HFA 6062C

(Contd. of page 5)

· Colour:	Transparent
· Odour:	Petroleum-like
· Odour threshold:	Not determined.
· pH-value:	Not determined. Not applicable.
· Change in condition	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	104 °C
· Pour point	< minus 33 °C
· Flash point:	55 °C
· Flammability (solid, gaseous):	Not applicable.
· Ignition temperature:	455 °C
· Decomposition temperature:	Not determined.
· Self-igniting:	Product is not selfigniting.
· Danger of explosion:	Not determined.
· Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
· Vapour pressure:	Not determined.
· Density at 15 °C:	1 - 1.1 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with water:	Fully miscible.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic at 40 °C:	8.975 mm ² /s
· 9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity**
- **10.2 Chemical stability** Stable under normal conditions
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

GB

(Contd. on page 7)

Trade name: HFA 6062C

(Contd. of page 6)

SECTION 11: Toxicological information

· 11.1 Information on toxicological effects

· Acute toxicity:

· LD/LC50 values relevant for classification:

50-00-0 formaldehyde

Oral	LD50	>200 mg/kg (rat)
------	------	------------------

67-56-1 methanol

Oral	LD50	5628 mg/kg (rat)
Dermal	LD50	15800 mg/kg (rabbit)

· Primary irritant effect:

· **on the skin:** Irritant to skin and mucous membranes.

· **on the eye:** Irritating effect.

· **Sensitisation:** Sensitisation possible through skin contact.

· Additional toxicological information:

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

Harmful

Irritant

· CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Carc. 2

SECTION 12: Ecological information

· 12.1 Toxicity

· **Aquatic toxicity:** No further relevant information available.

· **12.2 Persistence and degradability** No further relevant information available.

· **12.3 Bioaccumulative potential** No further relevant information available.

· **12.4 Mobility in soil** No further relevant information available.

· Additional ecological information:

· General notes:

Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into the ground.

· 12.5 Results of PBT and vPvB assessment

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

· 13.1 Waste treatment methods

· Recommendation

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

(Contd. on page 8)

Trade name: HFA 6062C

(Contd. of page 7)

The generation of waste should be avoided or minimised wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of split material and runoff and contact with soil, waterways, drains and sewers.

· **Uncleaned packaging:**

· **Recommendation:**

Disposal must be made according to official regulations.

This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have been cleaned or rinsed out. Emptied containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of split material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

· **14.1 UN-Number**

· **ADR, IMDG, IATA** UN2924

· **14.2 UN proper shipping name**

· **ADR** 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S. (METHANOL, FORMALDEHYDE SOLUTION)

· **IMDG, IATA** FLAMMABLE LIQUID, CORROSIVE, N.O.S. (METHANOL, FORMALDEHYDE SOLUTION)

· **14.3 Transport hazard class(es)**

· **ADR, IMDG, IATA**



· **Class** 3 Flammable liquids.

· **Label** 3+8

· **14.4 Packing group**

· **ADR, IMDG, IATA** III

· **14.5 Environmental hazards:**

· **Marine pollutant:** No

· **14.6 Special precautions for user** Warning: Flammable liquids.

· **Danger code (Kemler):** 38

· **EMS Number:** F-E,S-C

· **14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

· **Transport/Additional information:**

· **ADR**

· **Limited quantities (LQ)** 5L

(Contd. on page 9)

Trade name: HFA 6062C

(Contd. of page 8)

· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· Transport category	3
· Tunnel restriction code	D/E
<hr/>	
· IMDG	
· Limited quantities (LQ)	5L
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· UN "Model Regulation":	UN2924, FLAMMABLE LIQUID, CORROSIVE, N.O.S. (METHANOL, FORMALDEHYDE SOLUTION), 3 (8), III

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
No further relevant information available.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant phrases**

H225	Highly flammable liquid and vapour.
H301	Toxic if swallowed.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H331	Toxic if inhaled.
H351	Suspected of causing cancer.
H370	Causes damage to organs.
<hr/>	
R11	Highly flammable.
R23/24/25	Toxic by inhalation, in contact with skin and if swallowed.
R34	Causes burns.
R39/23/24/25	Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.
R40	Limited evidence of a carcinogenic effect.
R43	May cause sensitisation by skin contact.

- **Department issuing MSDS:** Product safety department

- **Contact:** Mr. G.C. Spruijt

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
 IMDG: International Maritime Code for Dangerous Goods
 IATA: International Air Transport Association
 GHS: Globally Harmonised System of Classification and Labelling of Chemicals
 EINECS: European Inventory of Existing Commercial Chemical Substances
 ELINCS: European List of Notified Chemical Substances
 CAS: Chemical Abstracts Service (division of the American Chemical Society)
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent
 Flam. Liq. 2: Flammable liquids, Hazard Category 2
 Flam. Liq. 3: Flammable liquids, Hazard Category 3
 Acute Tox. 3: Acute toxicity, Hazard Category 3
 Acute Tox. 4: Acute toxicity, Hazard Category 4
 Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B
 Skin Sens. 1: Sensitisation - Skin, Hazard Category 1
 Carc. 2: Carcinogenicity, Hazard Category 2
 STOT SE 1: Specific target organ toxicity - Single exposure, Hazard Category 1
 STOT SE 2: Specific target organ toxicity - Single exposure, Hazard Category 2

SECTION 1: Identification of the substance/mixture and of the company/undertaking

- **1.1 Product identifier**
- **Trade name:** HFA 8022
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
Anti-oxidant
- **Sector of Use** SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites
- **Product category** PC13 Fuels
- **Application of the substance / the mixture** Additive
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
WRT B.V.
Strawinskylaan 3067 1077 ZX
Amsterdam
Nederland
Tel.: +31 (0)20 644 2831
Facsimile: +31 (0)20 642 3962
Email: info@wrtbv.com
- **Further information obtainable from:** Product safety department
- **1.4 Emergency telephone number:** During normal opening times: +31 2064 42831

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS02 flame

Flam. Liq. 3 H226 Flammable liquid and vapour.



GHS08 health hazard

Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.



GHS09 environment

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.
STOT SE 3 H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



T; Toxic

R25: Toxic if swallowed.



Xn; Harmful

R21-65: Harmful in contact with skin. Harmful: may cause lung damage if swallowed.



Xi; Irritant

R37: Irritating to respiratory system.

(Contd. on page 2)

GB

Trade name: HFA 8022

(Contd. of page 1)



N; Dangerous for the environment

R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R10-67: Flammable. Vapours may cause drowsiness and dizziness.

• Information concerning particular hazards for human and environment:

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

• Classification system:

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

• 2.2 Label elements
• Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the CLP regulation.

• Hazard pictograms


GHS02



GHS07



GHS08



GHS09

• Signal word *Danger*
• Hazard-determining components of labelling:

N,N'-di-sec-butyl-p-phenylenediamine

Hydrocarbons, C9, Aromatics

• Hazard statements

H226 Flammable liquid and vapour.

H302 Harmful if swallowed.

H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.

H304 May be fatal if swallowed and enters airways.

H411 Toxic to aquatic life with long lasting effects.

• Precautionary statements

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children. Read label before use.

P103 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P210 Use explosion-proof electrical/ventilating/lighting/equipment. Avoid

breathing dust/fume/gas/mist/vapours/spray.

P261

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

• 2.3 Other hazards
• Results of PBT and vPvB assessment • PBT:

Not applicable.

• vPvB: Not applicable.











SECTION 3: Composition/information on ingredients

• 3.2 Chemical characterization: Mixtures
• Description: Mixture of substances listed below with nonhazardous additions.

• Dangerous components:

(Contd. on page 3)

Trade name: HFA 8022

		(Contd. of page 2)
CAS:64742-95-6 EC: 918-668-5 Reg.nr.:01-2119455851-35	Hydrocarbons, C9, Aromatics (Solvent naphtha, petroleum, light aromatic)  Xi R37;  N R51/53 R10-66-67  Flam. Liq. 3, H226;  Asp. Tox. 1, H304;  Aquatic Chronic 2, H411;  STOT SE 3, H335-H336	65 - 75%
CAS: 101-96-2 EINECS: 202-992-2 Reg.nr.: 01-2119967405-31	N,N'-di-sec-butyl-p-phenylenediamine  T R25;  Xn R21  Acute Tox. 3, H301;  Acute Tox. 4, H312	15 - 40%

• **Additional information:** For the wording of the listed risk phrases refer to section 16.

SECTION 4: First aid measures

• 4.1 Description of first aid measures

• General information:

Immediately remove any clothing soiled by the product.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

In case of irregular breathing or respiratory arrest provide artificial respiration.

- **After inhalation:** In case of unconsciousness place patient stably in side position for transportation. •

After skin contact: Immediately wash with water and soap and rinse thoroughly.

- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor. •

After swallowing: Do not induce vomiting; call for medical help immediately.

• 4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

• 4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

SECTION 5: Firefighting measures

• 5.1 Extinguishing media

• Suitable extinguishing agents:

CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

- **For safety reasons unsuitable extinguishing agents:** Water with full jet

• 5.2 Special hazards arising from the substance or mixture

In case of fire, the following can be released:

Carbon monoxide (CO)

Carbon dioxide (CO2)

• 5.3 Advice for firefighters

• Protective equipment:

Wear impervious clothing and self contained breathing apparatus. Use water to keep fire-exposed containers cool. If a leak or spill has not ignited use water spray to disperse the vapours and to provide protection for personnel attempting to stop a leak. Take care not to spread the fire with water. Contain fire-fighting water to prevent ingress to watercourses as it will cause oil pollution.

SECTION 6: Accidental release measures

• 6.1 Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

• 6.2 Environmental precautions:

Do not allow product to reach sewage system or any water course.

Inform respective authorities in case of seepage into water course or sewage system.

Dilute with plenty of water.

Do not allow to enter sewers/ surface or ground water.

• 6.3 Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

(Contd. on page 4)

Trade name: HFA 8022

(Contd. of page 3)

Ensure adequate ventilation.

• **6.4 Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment. See

Section 13 for disposal information.

SECTION 7: Handling and storage

• **7.1 Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

• **Information about fire - and explosion protection:**

Keep ignition sources away - Do not smoke. Protect against electrostatic charges.

• **7.2 Conditions for safe storage, including any incompatibilities**

• **Storage:**

• **Requirements to be met by storerooms and receptacles:** No special requirements. •

Information about storage in one common storage facility: Not required. • **Further**

information about storage conditions: Keep container tightly sealed. • **7.3 Specific end**

use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

• **Additional information about design of technical facilities:** No further data; see item 7.

• **8.1 Control parameters**

• **Ingredients with limit values that require monitoring at the workplace:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

• **Additional information:** The lists valid during the making were used as basis.

• **8.2 Exposure controls**

• **Personal protective equipment:**

• **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing Wash hands before breaks and at the end of work. Avoid contact with the eyes and skin.

• **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

• **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

• **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

(Contd. on page 5)

Trade name: HFA 8022

(Contd. of page 4)

- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **For the permanent contact gloves made of the following materials are suitable:**

Fluorocarbon rubber (Viton)

Nitrile rubber, NBR

- **Eye protection:**



Tightly sealed goggles

- **Body protection:** Use protective suit.

SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

Form: Liquid

Colour: Red-brown

- **Odour:** Turpentine-like Not

- **Odour threshold:** determined.

- **pH-value:** Not applicable.

- **Change in condition**

Boiling point/Boiling range: Undetermined. •

Pour point < minus 30 °C

- **Flash point:** 50 °C

- **Flammability (solid, gaseous):** Not applicable.

- **Ignition temperature:**

Decomposition temperature: Not determined.

- **Self-igniting:** Product is not selfigniting.

- **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

- **Explosion limits:**

Lower: 0.8 Vol %

Upper: 7.0 Vol %

- **Vapour pressure at 20 °C:** 5 hPa

- **Density at 20 °C:** 0.89 - 0.92 g/cm³

- **Relative density** Not determined. •

Vapour density Not determined. •

Evaporation rate Not determined.

- **Solubility in / Miscibility with**

water: Insoluble.

- **Partition coefficient (n-octanol/water):** Not determined.

- **Viscosity:**

Dynamic at 20 °C: 2 mPas

Kinematic: Not determined.

(Contd. on page 6)

Trade name: HFA 8022

(Contd. of page 5)

• **9.2 Other information**

No further relevant information available.

SECTION 10: Stability and reactivity

• **10.1 Reactivity**

• **10.2 Chemical stability**

• **Thermal decomposition / conditions to be avoided:**

No decomposition if used according to specifications.

• **10.3 Possibility of hazardous reactions** No dangerous reactions known.

• **10.4 Conditions to avoid**

High temperature

Sources of ignition

Avoid the build-up of electrostatic charge

• **10.5 Incompatible materials:** Strong oxidizing agents

• **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

• **11.1 Information on toxicological effects**

• **Acute toxicity:**

• **LD/LC50 values relevant for classification:**

Hydrocarbons, C9, Aromatics

Oral	LD50	3592 mg/kg (rat) ((OECD 401))
Dermal	LD50	> 3160 mg/kg (rabbit) ((OECD 402))
Inhalative	LC50/4 h	> 6193 mg/l (rat) ((OECD 403))

• **Primary irritant effect:**

• **on the skin:** No irritant effect. • **on**

the eye: No irritating effect.

• **Sensitization:** No sensitizing effects known. •

Additional toxicological information:

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

Toxic

Harmful

Irritant

SECTION 12: Ecological information

• **12.1 Toxicity**

• **Aquatic toxicity:** No further relevant information available.

• **12.2 Persistence and degradability** No further relevant information available. •

12.3 Bioaccumulative potential No further relevant information available. • **12.4**

Mobility in soil No further relevant information available.

• **Ecotoxicological effects:** •

Remark: Toxic for fish

• **Additional ecological information:**

• **General notes:**

Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water Do not allow product to reach ground water, water course or sewage system. Danger to drinking water if even small quantities leak into the ground. Also poisonous for fish and plankton in water bodies.

Toxic for aquatic organisms

(Contd. on page 7)

Trade name: HFA 8022

(Contd. of page 6)

• **12.5 Results of PBT and vPvB assessment • PBT:**

Not applicable.

• **vPvB:** Not applicable.

• **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

• **13.1 Waste treatment methods**

• **Recommendation**

Must not be disposed together with household garbage. Do not allow product to reach sewage system. The generation of waste should be avoided or minimised wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of split material and runoff and contact with soil, waterways, drains and sewers.

• **Uncleaned packaging:**

• **Recommendation:**

Disposal must be made according to official regulations. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have been cleaned or rinsed out. Emptied containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of split material and runoff and contact with soil, waterways, drains and sewers.

• **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

SECTION 14: Transport information

• **14.1 UN-Number**

• **ADR, IMDG, IATA**

UN1992

• **14.2 UN proper shipping name**

• **ADR**

1992 FLAMMABLE LIQUID, TOXIC, N.O.S. (N,N'-di-sec-butyl- p- phenylenediamine), ENVIRO NMENT ALLY HAZARDOUS

• **IMDG, IATA**

FLAMMABLE LIQUID, TOXIC, N.O.S. (N,N'-di-sec-butyl-p-phenylenediamine)

• **14.3 Transport hazard class(es)**

• **ADR, IMDG**



• **Class**

3 Flammable liquids.

• **Label**

3+6

(Contd. on page 8)

Trade name: HFA 8022

(Contd. of page 7)

• IATA

• Class •

3 Flammable liquids.

Label

3+6

• 14.4 Packing group
• ADR, IMDG, IATA

III

• 14.5 Environmental hazards:

Product contains environmentally hazardous substances:

• Marine pollutant:

Yes

Symbol (fish and tree)

• Special marking (ADR):

Symbol (fish and tree)

• 14.6 Special precautions for user

Warning: Flammable liquids.

• Danger code (Kemler):

36

• EMS Number:

F-E,S-D

• 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable.

• Transport/Additional information:
• ADR
• Limited quantities (LQ)

5L •

Transport category

3•

Tunnel restriction code

D/E

• UN "Model Regulation":

UN1992, FLAMMABLE LIQUID, TOXIC, N.O.S. (N,N'-di-sec-butyl-p-phenylenediamine), ENVIRONMENTALLY HAZARDOUS, 3 (6), III

SECTION 15: Regulatory information

• 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

No further relevant information available.

• 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

• Relevant phrases

H226 Flammable liquid and vapour. H301

Toxic if swallowed.

H304 May be fatal if swallowed and enters airways. H312

Harmful in contact with skin.

H335 May cause respiratory irritation.

H336 May cause drowsiness or dizziness.

H411 Toxic to aquatic life with long lasting effects.

R10 Flammable.

R21 Harmful in contact with skin.

R25 Toxic if swallowed.

R37 Irritating to respiratory system.

(Contd. on page 9)

Trade name: HFA 8022

(Contd. of page 8)

R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R66 Repeated exposure may cause skin dryness or cracking.

R67 Vapours may cause drowsiness and dizziness.

• **Department issuing MSDS:** Product safety department

• **Contact:** Mr. G.C. Spruijt

• **Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organization

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

Flam. Liq. 3: Flammable liquids, Hazard Category 3

Acute Tox. 3: Acute toxicity, Hazard Category 3 Acute

Tox. 4: Acute toxicity, Hazard Category 4

STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

Asp. Tox. 1: Aspiration hazard, Hazard Category 1

Aquatic Chronic 2: Hazardous to the aquatic environment - Chronic Hazard, Category 2

•* **Data compared to the previous version altered.** Reach registration numbers added

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 20.03.2014

Version number 8

Revision: 18.03.2014

1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
- **Trade name:** **HFA 8030**
- **Relevant identified uses of the substance or mixture and uses advised against**
Anti-oxidant
- **Sector of Use** SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites
- **Product category** PC13 Fuels
- **Application of the substance / the mixture** Additive
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
WRT B.V.
Strawinskylaan 3067
1077ZX Amsterdam
The Netherlands
Tel.: 00-31-(0)20-644 2831
Fax.: 00-31-(0)20-642 3962
info@wrtbv.com
- **Further information obtainable from:**
Product Safety Department
Tel.: 00-31-(0)-644 2831
info@wrtbv.com
Support is only given in the following languages: Dutch, English and German
- **Emergency telephone number:**
Product Safety department
In case of a spill or accident, you can contact us at:
Tel.: 00-31-(0)20-644 2831
During office hours we can be contacted for general information at
Tel.: 00-31-(0)20-6442831
Support is only given in the following languages: Dutch, English, and German

2 Hazards identification

- **Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS02 flame

Flam. Liq. 2 H225 Highly flammable liquid and vapour.



GHS08 health hazard

Repr. 2	H361d	Suspected of damaging the unborn child.
STOT RE 2	H373	May cause damage to organs through prolonged or repeated exposure.
Asp. Tox. 1	H304	May be fatal if swallowed and enters airways.



GHS09 environment

Aquatic Chronic 1 H410 Very toxic to aquatic life with long lasting effects.



GHS07

Acute Tox. 4	H302	Harmful if swallowed.
Skin Irrit. 2	H315	Causes skin irritation.
Eye Irrit. 2	H319	Causes serious eye irritation.

(Contd. on page 2)

Trade name: HFA 8030

(Contd. of page 1)

STOT SE 3 H336 May cause drowsiness or dizziness.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC



Xn; Harmful

R48/20-63-65: Harmful: danger of serious damage to health by prolonged exposure through inhalation. Possible risk of harm to the unborn child. Harmful: may cause lung damage if swallowed.



Xi; Irritant

R36/38: Irritating to eyes and skin.



F+; Highly flammable

R11: Highly flammable.

R67: Vapours may cause drowsiness and dizziness.

Information concerning particular hazards for human and environment:

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

Classification system:

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

Label elements

Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the CLP regulation.

Hazard pictograms



GHS02



GHS07



GHS08



GHS09

Signal word Danger

Hazard-determining components of labelling:

2,6-di-tert-butyl-p-cresol

toluene

Hazard statements

H225 Highly flammable liquid and vapour.

H302 Harmful if swallowed.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H361d Suspected of damaging the unborn child.

H336 May cause drowsiness or dizziness.

H373 May cause damage to organs through prolonged or repeated exposure.

H304 May be fatal if swallowed and enters airways.

H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P103 Read label before use.

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

(Contd. on page 3)

Trade name: HFA 8030

(Contd. of page 2)

- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**

CAS: 108-88-3 EINECS: 203-625-9 Reg.nr.: 01-2119471310-51	toluene Xn R48/20-63-65; Xi R38; F R11 R67 Repr. Cat. 3 Flam. Liq. 2, H225; Repr. 2, H361d; STOT RE 2, H373; Asp. Tox. 1, H304; Skin Irrit. 2, H315; STOT SE 3, H336	50%
CAS: 128-37-0 EINECS: 204-881-4 Reg.nr.: 01-2119565113-46	2,6-di-tert-butyl-p-cresol Xi R36/38 Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2, H319	50%

- **Additional information:** For the wording of the listed risk phrases refer to section 16.

4 First aid measures

- **Description of first aid measures**
- **General information:**
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed**
No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture**
Carbon monoxide (CO)
Carbon dioxide (CO₂)
- **Advice for firefighters**
- **Protective equipment:**

(Contd. on page 4)

Trade name: HFA 8030

(Contd. of page 3)

Wear impervious clothing and self contained breathing apparatus. Use water to keep fire-exposed containers cool. If a leak or spill has not ignited use water spray to disperse the vapours and to provide protection for personnel attempting to stop a leak. Take care not to spread the fire with water. Contain fire-fighting water to prevent ingress to watercourses as it will cause oil pollution.

6 Accidental release measures

· Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

· Environmental precautions: Do not allow to enter sewers/ surface or ground water.

· Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

· Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage

· Handling:

· Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

· Information about fire - and explosion protection:

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

· Conditions for safe storage, including any incompatibilities

· Storage:

· Requirements to be met by storerooms and receptacles:

Store only in unopened original receptacles.

Store inside, protect from cold as crystallisation can start to form from < 15 degrees Celsius.

· Information about storage in one common storage facility: Not required.

· Further information about storage conditions: Keep container tightly sealed.

· Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

· Additional information about design of technical facilities: No further data; see item 7.

· Control parameters

· Ingredients with limit values that require monitoring at the workplace:

108-88-3 toluene

WEL Short-term value: 384 mg/m³, 100 ppm

Long-term value: 191 mg/m³, 50 ppm

Sk

128-37-0 2,6-di-tert-butyl-p-cresol

WEL Long-term value: 10 mg/m³

· Additional information: The lists valid during the making were used as basis.

· Exposure controls

· Personal protective equipment:

· General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

(Contd. on page 5)

Trade name: HFA 8030

(Contd. of page 4)

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

· **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form: Liquid

Colour: Light yellow

· **Odour:** Aromatic

· **Odour threshold:** Not determined.

· **pH-value:** Not applicable.

· **Change in condition**

Melting point/Melting range: Undetermined.

Boiling point/Boiling range: 110 °C

· **Pour point** < minus 30 °C

· **Flash point:** 14 °C

· **Flammability (solid, gaseous):** Not applicable.

· **Ignition temperature:** 345 °C

· **Decomposition temperature:** Not determined.

· **Self-igniting:** Product is not selfigniting.

· **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

· **Explosion limits:**

Lower: 1.2 Vol %

(Contd. on page 6)

Trade name: HFA 8030

(Contd. of page 5)

Upper:	7.0 Vol %
· Vapour pressure at 20 °C:	29 hPa
· Density at 20 °C:	0.91 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with water:	Insoluble.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic at 20 °C:	2 mPas
Kinematic:	Not determined.
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid**
High temperature
Sources of ignition
Avoid the build-up of electrostatic charge
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

- **LD/LC50 values relevant for classification:**

108-88-3 toluene		
Oral	LD50	5000 mg/kg (rat)
Dermal	LD50	12124 mg/kg (rabbit)
Inhalative	LC50/4 h	5320 mg/l (mouse)
128-37-0 2,6-di-tert-butyl-p-cresol		
Oral	LD50	890 mg/kg (rat)

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Irritant

(Contd. on page 7)

Trade name: HFA 8030

(Contd. of page 6)

- **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**
Repr. 2

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**
The generation of waste should be avoided or minimised wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of split material and runoff and contact with soil, waterways, drains and sewers.
- **Uncleaned packaging:**
- **Recommendation:**
Disposal must be made according to official regulations.
This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have been cleaned or rinsed out. Emptied containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of split material and runoff and contact with soil, waterways, drains and sewers.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.




14 Transport information

- | | |
|----------------------------------|---|
| · UN-Number | |
| · ADR, IMDG, IATA | UN1993 |
| · UN proper shipping name | |
| · ADR | 1993 FLAMMABLE LIQUID, N.O.S., (toluene, 2,6di-tert-butyl-p-cresol) |

(Contd. on page 8)

Trade name: HFA 8030

(Contd. of page 7)

· IMDG	FLAMMABLE LIQUID, N.O.S., (toluene, 2,6 di-tert-butyl-p-cresol) MARINE POLLUTANT
· IATA	FLAMMABLE LIQUID, N.O.S., (toluene, 2,6 di-tert-butyl-p-cresol)
· Transport hazard class(es)	
· ADR, IMDG	
	
· Class	3 Flammable liquids.
· Label	3
· IATA	
	
· Class	3 Flammable liquids.
· Label	3
· Packing group	
· ADR, IMDG, IATA	II
· Environmental hazards:	Product contains environmentally hazardous substances: 2,6-di-tert-butyl-p-cresol
· Marine pollutant:	Yes Symbol (fish and tree)
· Special marking (ADR):	Symbol (fish and tree)
· Special precautions for user	Warning: Flammable liquids.
· Danger code (Kemler):	33
· EMS Number:	F-E,S-D
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	1L
· Transport category	2
· Tunnel restriction code	D/E
· UN "Model Regulation":	UN1993, FLAMMABLE LIQUID, N.O.S., (toluene, 2,6 di-tert-butyl-p-cresol), 3, II

15 Regulatory information

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant phrases**

H225 Highly flammable liquid and vapour.

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Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 20.03.2014

Version number 8

Revision: 18.03.2014

Trade name: HFA 8030

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H302 Harmful if swallowed.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.
H361d Suspected of damaging the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure.

R11 Highly flammable.
R36/38 Irritating to eyes and skin.
R38 Irritating to skin.
R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.
R63 Possible risk of harm to the unborn child.
R65 Harmful: may cause lung damage if swallowed.
R67 Vapours may cause drowsiness and dizziness.

· **Department issuing MSDS:** Product safety department

· **Contact:** Mr. G.C. Spruijt

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

· * **Data compared to the previous version altered.** added reach registration numbers

GB

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name: **HFA 8055**

1.2 Relevant identified uses of the substance or mixture and uses advised against
Anti-oxidant

Sector of Use SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites

Product category PC13 Fuels

Application of the substance / the mixture Additive

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

WRT B.V.

Strawinskylaan 3067

1077ZX Amsterdam

The Netherlands

Tel.: 00-31-(0)20-644 2831

Fax.: 00-31-(0)20-642 3962

info@wrtbv.com

Further information obtainable from:

Product Safety Department

Tel.: 00-31-(0)-644 2831

info@wrtbv.com

Support is only given in the following languages: Dutch, English and German

1.4 Emergency telephone number:

Product Safety department

In case of a spill or accident, you can contact us at:

Tel.: 00-31-(0)20-644 2831

During office hours we can be contacted for general information at

Tel.: 00-31-(0)20-6442831

Support is only given in the following languages: Dutch, English, and German

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008



GHS02 flame

Flam. Liq. 3

H226

Flammable liquid and vapour.



GHS08 health hazard

Asp. Tox. 1

H304

May be fatal if swallowed and enters airways.



GHS09 environment

Aquatic Chronic 2 H411

Toxic to aquatic life with long lasting effects.



GHS07

Skin Sens. 1

H317

May cause an allergic skin reaction.

STOT SE 3

H335-H336

May cause respiratory irritation. May cause drowsiness or dizziness.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC



Xn; Harmful

R65: Harmful: may cause lung damage if swallowed.

(Contd. on page 2)

Trade name: HFA 8055

(Contd. of page 1)



Xi; Irritant

R37: Irritating to respiratory system.



Xi; Sensitising

R43: May cause sensitisation by skin contact.



N; Dangerous for the environment

R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R10-67: Flammable. Vapours may cause drowsiness and dizziness.

Information concerning particular hazards for human and environment:

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

Classification system:

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the CLP regulation.

Hazard pictograms



GHS02



GHS07



GHS08



GHS09

Signal word Danger

Hazard-determining components of labelling:

Hydrocarbons, C9, Aromatics

N-(1,3-Dimethylbutyl)-N'-phenyl-p-phenylenediamine

Hazard statements

H226 Flammable liquid and vapour.

H317 May cause an allergic skin reaction.

H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.

H304 May be fatal if swallowed and enters airways.

H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P103 Read label before use.

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P241 Use explosion-proof electrical/ventilating/lighting/equipment.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

GB

(Contd. on page 3)

Trade name: HFA 8055

(Contd. of page 2)

SECTION 3: Composition/information on ingredients

3.2 Chemical characterisation: Mixtures

Description: Mixture of substances listed below with nonhazardous additions.

Dangerous components:

EC number: 918-668-5 Reg.nr.: 01-2119455851-35	Hydrocarbons, C9, Aromatics Xi R37; N R51/53 R10-66-67 Flam. Liq. 3, H226; Asp. Tox. 1, H304; Aquatic Chronic 2, H411; STOT SE 3, H335-H336	50 - 80%
CAS: 793-24-8 EINECS: 212-344-0 Reg.nr.: 01-2119485839-15	N-(1,3-Dimethylbutyl)-N'-phenyl-p-phenylenediamine Xi R43; N R50/53 Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Skin Sens. 1, H317	15 - 25%

Additional information: For the wording of the listed risk phrases refer to section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

After inhalation:

Supply fresh air and to be sure call for a doctor.

In case of unconsciousness place patient stably in side position for transportation.

After skin contact: Immediately wash with water and soap and rinse thoroughly.

After eye contact: Rinse opened eye for several minutes under running water.

After swallowing: If symptoms persist consult doctor.

4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing agents: CO₂, sand, extinguishing powder. Do not use water.

For safety reasons unsuitable extinguishing agents: Water with full jet

5.2 Special hazards arising from the substance or mixture

In case of fire, the following can be released:

Carbon monoxide (CO)

Carbon dioxide (CO₂)

5.3 Advice for firefighters

Protective equipment:

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

6.2 Environmental precautions:

Do not allow product to reach sewage system or any water course.

Inform respective authorities in case of seepage into water course or sewage system.

Do not allow to enter sewers/ surface or ground water.

(Contd. on page 4)

Trade name: HFA 8055

(Contd. of page 3)

· **6.3 Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Do not flush with water or aqueous cleansing agents

· **6.4 Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

· **Information about fire - and explosion protection:**

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

· **7.2 Conditions for safe storage, including any incompatibilities**

· **Storage:**

· **Requirements to be met by storerooms and receptacles:** No special requirements.

· **Information about storage in one common storage facility:** Not required.

· **Further information about storage conditions:** Keep container tightly sealed.

· **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· **Additional information about design of technical facilities:** No further data; see item 7.

· **8.1 Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

· **Additional information:** The lists valid during the making were used as basis.

· **8.2 Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

· **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

(Contd. on page 5)

Trade name: HFA 8055

(Contd. of page 4)

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **For the permanent contact gloves made of the following materials are suitable:**

Fluorocarbon rubber (Viton)

Nitrile rubber, NBR

· **Eye protection:**



Tightly sealed goggles

· **Body protection:** Use protective suit.

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

· Form:	Liquid
· Colour:	Light red
· Odour:	Aromatic
· Odour threshold:	Not determined.

· pH-value:	Not determined.
--------------------	-----------------

· **Change in condition**

· Boiling point/Boiling range:	164 °C
· Pour point	< minus 30 °C

· Flash point:	48 °C
-----------------------	-------

· Flammability (solid, gaseous):	Not applicable.
---	-----------------

· Ignition temperature:	440 °C
--------------------------------	--------

· Decomposition temperature:	Not determined.
-------------------------------------	-----------------

· Self-igniting:	Product is not selfigniting.
-------------------------	------------------------------

· Danger of explosion:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
-------------------------------	---

· **Explosion limits:**

· Lower:	0.8 Vol %
· Upper:	7.0 Vol %

· Vapour pressure at 20 °C:	5 hPa
------------------------------------	-------

· Density at 15 °C:	0.91 - 0.94 g/cm ³
----------------------------	-------------------------------

· Relative density	Not determined.
---------------------------	-----------------

· Vapour density	Not determined.
-------------------------	-----------------

· Evaporation rate	Not determined.
---------------------------	-----------------

· **Solubility in / Miscibility with water:**

Not miscible or difficult to mix.

· Partition coefficient (n-octanol/water):	Not determined.
---	-----------------

(Contd. on page 6)

Trade name: HFA 8055

(Contd. of page 5)

- **Viscosity:**
- **Dynamic:** Not determined.
- **Kinematic at 40 °C:** 1.845 mm²/s (DIN 53211/4)
- **9.2 Other information** No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity**
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid**
High temperature
Sources of ignition
Avoid the build-up of electrostatic charge
- **10.5 Incompatible materials:** Oxidizing materials
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
 - **Acute toxicity:**
 - **LD/LC50 values relevant for classification:**
- | Hydrocarbons, C9, Aromatics | | |
|-----------------------------|----------|------------------------------------|
| Oral | LD50 | 3592 mg/kg (rat) ((OECD 401)) |
| Dermal | LD50 | > 3160 mg/kg (rabbit) ((OECD 402)) |
| Inhalative | LC50/4 h | > 6193 mg/l (rat) ((OECD 403)) |
- **Primary irritant effect:**
 - **on the skin:** No irritant effect.
 - **on the eye:** No irritating effect.
 - **Sensitisation:** Sensitisation possible through skin contact.
 - **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Irritant

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Toxic for fish
- **Additional ecological information:**
- **General notes:**
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.

(Contd. on page 7)

Trade name: HFA 8055

(Contd. of page 6)

Toxic for aquatic organisms

12.5 Results of PBT and vPvB assessment

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Recommendation

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

The generation of waste should be avoided or minimised wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of split material and runoff and contact with soil, waterways, drains and sewers.

Uncleaned packaging:

Recommendation:

Disposal must be made according to official regulations.

The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

SECTION 14: Transport information

14.1 UN-Number

· **ADR, IMDG, IATA**

UN1993

14.2 UN proper shipping name

· **ADR**

1993 FLAMMABLE LIQUID, N.O.S. (Hydrocarbons, C9, aromatics)

· **IMDG**

FLAMMABLE LIQUID, N.O.S. (Hydrocarbons, C9, aromatics,)

· **IATA**

FLAMMABLE LIQUID, N.O.S. (Hydrocarbons, C9, aromatics)

14.3 Transport hazard class(es)

· **ADR, IMDG**



· **Class**

3 Flammable liquids.

· **Label**

3

· **IATA**



· **Class**

3 Flammable liquids.

(Contd. on page 8)

Trade name: HFA 8055

(Contd. of page 7)

· Label	3
· 14.4 Packing group · ADR, IMDG, IATA	III
· 14.5 Environmental hazards: · Marine pollutant: · Special marking (ADR):	Product contains environmentally hazardous substances: N-(1,3-Dimethylbutyl)-N'-phenyl-p-phenylenediamine Yes Symbol (fish and tree) Symbol (fish and tree)
· 14.6 Special precautions for user · Danger code (Kemler): · EMS Number:	Warning: Flammable liquids. 30 F-E,S-E
· 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR · Limited quantities (LQ) · Transport category · Tunnel restriction code	5L 3 D/E
· UN "Model Regulation":	UN1993, FLAMMABLE LIQUID, N.O.S. (Hydrocarbons, C9, aromatics), 3, III

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
No further relevant information available.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant phrases**
H226 Flammable liquid and vapour.
H304 May be fatal if swallowed and enters airways.
H317 May cause an allergic skin reaction.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
H411 Toxic to aquatic life with long lasting effects.
R10 Flammable.
R37 Irritating to respiratory system.
R43 May cause sensitisation by skin contact.
R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R66 Repeated exposure may cause skin dryness or cracking.
R67 Vapours may cause drowsiness and dizziness.
- **Department issuing MSDS:** Product safety department
- **Contact:** Mr. G.C. Spruijt

(Contd. on page 9)

Trade name: HFA 8055

(Contd. of page 8)

· Abbreviations and acronyms:

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

Flam. Liq. 3: Flammable liquids, Hazard Category 3

Skin Sens. 1: Sensitisation - Skin, Hazard Category 1

STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

Asp. Tox. 1: Aspiration hazard, Hazard Category 1

Aquatic Acute 1: Hazardous to the aquatic environment - AcuteHazard, Category 1

Aquatic Chronic 1: Hazardous to the aquatic environment - Chronic Hazard, Category 1

Aquatic Chronic 2: Hazardous to the aquatic environment - Chronic Hazard, Category 2

· * Data compared to the previous version altered. Reach registration number added

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 18.03.2014

Version number 3

Revision: 18.03.2014

1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
- **Trade name:** **HFA 8094**
- **Relevant identified uses of the substance or mixture and uses advised against**
Corrosion inhibitor
- **Sector of Use** SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites
- **Product category** PC13 Fuels
- **Application of the substance / the mixture** Additive
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
WRT B.V.
Strawinskylaan 3067
1077ZX Amsterdam
The Netherlands
Tel.: 00-31-(0)20-644 2831
Fax.: 00-31-(0)20-642 3962
info@wrtbv.com
- **Further information obtainable from:**
Product Safety Department
Tel.: 00-31-(0)-644 2831
info@wrtbv.com
Support is only given in the following languages: Dutch, English and German
- **Emergency telephone number:**
Product Safety department
In case of a spill or accident, you can contact us at:
Tel.: 00-31-(0)20-644 2831
During office hours we can be contacted for general information at
Tel.: 00-31-(0)20-6442831
Support is only given in the following languages: Dutch, English, and German

2 Hazards identification

- **Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS02 flame

Flam. Liq. 3 H226 Flammable liquid and vapour.



GHS07

Acute Tox. 4 H312 Harmful in contact with skin.

Acute Tox. 4 H332 Harmful if inhaled.

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2 H319 Causes serious eye irritation.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



Xn; Harmful

R20/21: Harmful by inhalation and in contact with skin.



Xi; Irritant

R38: Irritating to skin.

R10: Flammable.

(Contd. on page 2)

GB

Trade name: HFA 8094

(Contd. of page 1)

· **Information concerning particular hazards for human and environment:**

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

· **Classification system:**

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

· **Label elements**

· **Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the CLP regulation.

· **Hazard pictograms**



GHS02 GHS07

· **Signal word** Warning

· **Hazard-determining components of labelling:**

xylene
ethylbenzene

· **Hazard statements**

H226 Flammable liquid and vapour.
H312 Harmful in contact with skin.
H332 Harmful if inhaled.
H315 Causes skin irritation.
H319 Causes serious eye irritation.

· **Precautionary statements**

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P241 Use explosion-proof electrical/ventilating/lighting/equipment.
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P321 Specific treatment (see on this label).
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

· **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**

CAS: 1330-20-7 EINECS: 215-535-7 Reg.nr.: 01-2119488216-32	xylene ☒ Xn R20/21; ☒ Xi R38 R10 ☒ Flam. Liq. 3, H226; ☒ Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315	10 - 20%
CAS: 100-41-4 EINECS: 202-849-4 Reg.nr.: 01-2119489370-35	ethylbenzene ☒ Xn R20; ☒ F R11 ☒ Flam. Liq. 2, H225; ☒ Acute Tox. 4, H332	3 - 7%

(Contd. on page 3)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 18.03.2014

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Revision: 18.03.2014

Trade name: HFA 8094

(Contd. of page 2)

· **Additional information:** For the wording of the listed risk phrases refer to section 16.

4 First aid measures

· **Description of first aid measures**

· **General information:**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

· **After inhalation:**

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

Do not use mouth to mouth or mouth to nose resuscitation.

Use a respiratory bag or breathing device.

In case of unconsciousness place patient stably in side position for transportation.

Loosen tight clothing such as a collar, tie, belt or waistband.

Take affected persons into fresh air and keep quiet.

· **After skin contact:**

Immediately wash with water and soap and rinse thoroughly.

If skin irritation continues, consult a doctor.

· **After eye contact:**

Rinse opened eye for several minutes under running water.

Check for and remove any contact lenses

Seek medical treatment.

· **After swallowing:**

If symptoms persist consult doctor.

Do not induce vomiting; call for medical help immediately.

If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed persons feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that the vomit does not enter the lungs. Get medical attention if adverse health persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

· **Information for doctor:**

· **Most important symptoms and effects, both acute and delayed**

No further relevant information available.

· **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

5 Firefighting measures

· **Extinguishing media**

· **Suitable extinguishing agents:**

Fire-extinguishing powder

Water haze

Foam

Carbon dioxide

· **For safety reasons unsuitable extinguishing agents:** Water with full jet

· **Special hazards arising from the substance or mixture**

Carbon monoxide (CO)

Carbon dioxide (CO₂)

Flammable liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard.

· **Advice for firefighters**

· **Protective equipment:**

Wear fully protective suit.

Wear self-contained respiratory protective device.

· **Additional information**

Cool endangered receptacles with water spray.

Collect contaminated fire fighting water separately. It must not enter the sewage system.

(Contd. on page 4)

Trade name: HFA 8094

(Contd. of page 3)

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

Keep away from ignition sources.

Use respiratory protective device against the effects of fumes/dust/aerosol.

Ensure adequate ventilation

· **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.

· **Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

· **Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage

· **Handling:**

· **Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.

Avoid any contact with the product

Do not breath vapours

Smoking is forbidden

No flames, no sparks. Eliminate all ignition sources.

Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools.

Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material.

Empty containers retain product and can be hazardous.

Prevent formation of aerosols.

· **Information about fire - and explosion protection:**

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

· **Conditions for safe storage, including any incompatibilities**

· **Storage:**

· **Requirements to be met by storerooms and receptacles:** No special requirements.

· **Information about storage in one common storage facility:** Not required.

· **Further information about storage conditions:** Keep container tightly sealed.

· **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

· **Additional information about design of technical facilities:** No further data; see item 7.

· **Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

1330-20-7 xylene

WEL Short-term value: 441 mg/m³, 100 ppm

Long-term value: 220 mg/m³, 50 ppm

Sk; BMGV

(Contd. on page 5)

Trade name: HFA 8094

(Contd. of page 4)

100-41-4 ethylbenzene

WEL	Short-term value: 552 mg/m ³ , 125 ppm Long-term value: 441 mg/m ³ , 100 ppm
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- **Additional information:** The lists valid during the making were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
 - Keep away from foodstuffs, beverages and feed.
 - Immediately remove all soiled and contaminated clothing
 - Wash hands before breaks and at the end of work.
 - Avoid contact with the skin.
 - Avoid contact with the eyes and skin.
- **Respiratory protection:**
 - In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**
 - The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**
 - The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:**



Tightly sealed goggles

- **Body protection:** Use protective suit.

9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

Form:	Liquid
Colour:	Amber coloured
Odour:	Aromatic
Odour threshold:	Not determined.

pH-value:	Not determined.
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· Change in condition

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	136 °C
Pour point	<-39 °C

(Contd. on page 6)

Trade name: HFA 8094

(Contd. of page 5)

· Flash point:	> 33 °C
· Ignition temperature:	430 °C
· Decomposition temperature:	Not determined.
· Self-igniting:	Product is not selfigniting.
· Danger of explosion:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· Explosion limits:	
Lower:	1.1 Vol %
Upper:	7.0 Vol %
· Vapour pressure at 20 °C:	0.27 kPa
· Density at 15 °C:	0.95 g/cm ³
· Relative density	0.952 g/cm ³ (ASTM D 4052)
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with water:	Insoluble.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic at 20 °C:	162 cSt (DIN 53211/4)
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity**
- **Chemical stability** Stable under normal conditions
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid**
High temperature
Sources of ignition
Avoid the build-up of electrostatic charge
- **Incompatible materials:** Oxidizing materials
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **LD/LC50 values relevant for classification:**

1330-20-7 xylene

Oral	LD50	4300 mg/kg (rat)
Dermal	LD50	2000 mg/kg (rabbit)

HFA 8094

Oral	LD50	> 16000 mg/kg (rat)
------	------	---------------------

(Contd. on page 7)

Trade name: HFA 8094

(Contd. of page 6)

100-41-4 ethylbenzene

Oral	LD50	3500 mg/kg (rat)
Dermal	LD50	>5000 mg/kg (rabbit)

· **Primary irritant effect:**

· **on the skin:** Irritant to skin and mucous membranes.

· **on the eye:** No irritating effect.

· **Sensitization:** No sensitizing effects known.

· **Additional toxicological information:**

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

Harmful

Irritant

12 Ecological information

· **Toxicity**

· **Aquatic toxicity:**

1330-20-7 xylene

LC50/96h	3.3 mg/l (vis)
----------	----------------

100-41-4 ethylbenzene

EC50/48h	2.93 mg/L (daphnia)
	7.2 mg/L (algae)
EC50/72h	4600 ug/L Zoetwater (algae)
EC50/96h	3600 ug/L Zoetwater (algae)
LC50/96h	4.2 mg/L (vis)

· **Persistence and degradability** Easily biodegradable

· **Behaviour in environmental systems:**

· **Bioaccumulative potential** No further relevant information available.

· **Mobility in soil** No further relevant information available.

· **Additional ecological information:**

· **General notes:**

Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into the ground.

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **Other adverse effects** No further relevant information available.

13 Disposal considerations

· **Waste treatment methods**

· **Recommendation**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packaging:**

· **Recommendation:** Disposal must be made according to official regulations.

· **Recommended cleansing agents:** Water, if necessary together with cleansing agents.


GB

(Contd. on page 8)

Trade name: HFA 8094

(Contd. of page 7)

14 Transport information

· UN-Number	
· ADR, IMDG, IATA	1307
· UN proper shipping name	
· ADR	1307, XYLENES mixture
· IMDG, IATA	XYLENES, mixture
· Transport hazard class(es)	
· ADR, IMDG, IATA	
	
· Class	3 Flammable liquids.
· Label	3
· Packing group	
· ADR, IMDG, IATA	III
· Environmental hazards:	
· Marine pollutant:	No
· Special precautions for user	Warning: Flammable liquids.
· Danger code (Kemler):	30
· EMS Number:	F-E,S-D
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	LQ7
· Transport category	3
· Tunnel restriction code	D/E
· UN "Model Regulation":	UN1307, 3, III

15 Regulatory information

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant phrases**
 - H225 Highly flammable liquid and vapour.
 - H226 Flammable liquid and vapour.
 - H312 Harmful in contact with skin.
 - H315 Causes skin irritation.
 - H332 Harmful if inhaled.
 - R10 Flammable.
 - R11 Highly flammable.
 - R20 Harmful by inhalation.
 - R20/21 Harmful by inhalation and in contact with skin.

(Contd. on page 9)

GB



Safety data sheet
according to 1907/2006/EC, Article 31

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Version number 3

Revision: 18.03.2014

Trade name: HFA 8094

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R38 Irritating to skin.

· **Department issuing MSDS:** Product safety department· **Contact:** Mr. G.C. Spruijt· **Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organization

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

· *** Data compared to the previous version altered.** included reach registration numbers

GB

SECTION 1: Identification of the substance/mixture and of the company/undertaking

- **1.1 Product identifier**
- **Trade name:** HFA 8760
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
Anti-oxidant
- **Sector of Use** SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites
- **Application of the substance / the mixture** Additive
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
WRT B.V.
Strawinskylaan 3067
1077ZX Amsterdam
The Netherlands
Tel.: 00-31-(0)20-644 2831
Fax.: 00-31-(0)20-642 3962
info@wrtbv.com
- **Further information obtainable from:**
Product Safety Department
Tel.: 00-31-(0)-644 2831
info@wrtbv.com
Support is only given in the following languages: Dutch, English and German
- **1.4 Emergency telephone number:**
Product Safety department
In case of a spill or accident, you can contact us at:
Tel.: 00-31-(0)20-644 2831
During office hours we can be contacted for general information at
Tel.: 00-31-(0)20-6442831
Support is only given in the following languages: Dutch, English, and German

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS02 flame

Flam. Liq. 3 H226 Flammable liquid and vapour.



GHS08 health hazard

Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.



GHS09 environment

Aquatic Acute 1 H400 Very toxic to aquatic life.

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

STOT SE 3 H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



Xi; Irritant

R37/38: Irritating to respiratory system and skin.

Trade name: HFA 8760

(Contd. of page 1)



N; Dangerous for the environment

R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R67: Vapours may cause drowsiness and dizziness.

Information concerning particular hazards for human and environment:

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

Classification system:

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

2.2 Label elements
Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the CLP regulation.

Hazard pictograms


GHS02



GHS07



GHS08



GHS09

Signal word Danger

Hazard-determining components of labelling:

Hydrocarbons, C9, Aromatics

Hazard statements

H226 Flammable liquid and vapour.

H315 Causes skin irritation.

H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.

H304 May be fatal if swallowed and enters airways.

H400 Very toxic to aquatic life.

H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P103 Read label before use.

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P241 Use explosion-proof electrical/ventilating/lighting/equipment.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.







2.3 Other hazards
Results of PBT and vPvB assessment
PBT: Not applicable.

vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

3.2 Chemical characterisation: Mixtures
Description: Mixture of substances listed below with nonhazardous additions.

Dangerous components:

EC number: 918-668-5 Reg.nr.: 01-2119455851-35	Hydrocarbons, C9, Aromatics  Xi R37;  N R51/53 R10-66-67  Flam. Liq. 3, H226;  Asp. Tox. 1, H304;  Aquatic Chronic 2, H411;  STOT SE 3, H335-H336	40 - 60%
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(Contd. on page 3)

Trade name: HFA 8760

(Contd. of page 2)

· **Additional information:** For the wording of the listed risk phrases refer to section 16.

SECTION 4: First aid measures

· **4.1 Description of first aid measures**

- **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** If symptoms persist consult doctor.

· **4.2 Most important symptoms and effects, both acute and delayed**

No further relevant information available.

· **4.3 Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

SECTION 5: Firefighting measures

· **5.1 Extinguishing media**

· **Suitable extinguishing agents:** CO₂, sand, extinguishing powder. Do not use water.

· **For safety reasons unsuitable extinguishing agents:** Water with full jet

· **5.2 Special hazards arising from the substance or mixture**

No further relevant information available.

· **5.3 Advice for firefighters**

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from the fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

· **Protective equipment:**

Wear impervious clothing and self contained breathing apparatus. Use water to keep fire-exposed containers cool. If a leak or spill has not ignited use water spray to disperse the vapours and to provide protection for personnel attempting to stop a leak. Take care not to spread the fire with water. Contain fire-fighting water to prevent ingress to watercourses as it will cause oil pollution.

SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**

Not required.

· **6.2 Environmental precautions:**

Do not allow product to reach sewage system or any water course.

Inform respective authorities in case of seepage into water course or sewage system.

Do not allow to enter sewers/ surface or ground water.

· **6.3 Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Ensure adequate ventilation.

Do not flush with water or aqueous cleansing agents

· **6.4 Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

· **Information about fire - and explosion protection:** No special measures required.

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- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep container tightly sealed.
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **8.1 Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists valid during the making were used as basis.
- **8.2 Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Avoid contact with the skin.
Avoid contact with the eyes and skin.
- **Respiratory protection:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
- **Protection of hands:**



Protective gloves

- The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
 - **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
 - **Eye protection:** Goggles recommended during refilling

SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**
- **Form:** Liquid
- **Colour:** Light yellow
- **Odour:** Characteristic

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Trade name: HFA 8760

(Contd. of page 4)

· Odour threshold:	Not determined.
· pH-value:	Not determined.
· Change in condition	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	164 °C
· Pour point	< minus 48 °C
· Flash point:	56 °C
· Flammability (solid, gaseous):	Not applicable.
· Ignition temperature:	440 °C
· Decomposition temperature:	Not determined.
· Self-igniting:	Product is not selfigniting.
· Danger of explosion:	Not determined.
· Explosion limits:	
Lower:	0.8 Vol %
Upper:	7.0 Vol %
· Vapour pressure at 20 °C:	5 hPa
· Density at 20 °C:	0.89 - 0.92 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with water:	Not miscible or difficult to mix.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic at 40 °C:	2.038 mm ² /s
· 9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity**
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid**
High temperature
Sources of ignition
Avoid the build-up of electrostatic charge
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

GB

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SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity:

LD/LC50 values relevant for classification:

Hydrocarbons, C9, Aromatics

Oral	LD50	3592 mg/kg (rat) ((OECD 401))
Dermal	LD50	> 3160 mg/kg (rabbit) ((OECD 402))
Inhalative	LC50/4 h	> 6193 mg/l (rat) ((OECD 403))

Primary irritant effect:

on the skin: Irritant to skin and mucous membranes.

on the eye: No irritating effect.

Sensitisation: No sensitising effects known.

Additional toxicological information:

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

Irritant

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity: No further relevant information available.

12.2 Persistence and degradability No further relevant information available.

12.3 Bioaccumulative potential No further relevant information available.

12.4 Mobility in soil No further relevant information available.

Ecotoxicological effects:

Remark: Very toxic for fish

Additional ecological information:

General notes:

Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into the ground.

Also poisonous for fish and plankton in water bodies.

Very toxic for aquatic organisms

12.5 Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

12.6 Other adverse effects No further relevant information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Recommendation

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

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The generation of waste should be avoided or minimised wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of split material and runoff and contact with soil, waterways, drains and sewers.

· **Uncleaned packaging:**

· **Recommendation:**

Disposal must be made according to official regulations.

This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have been cleaned or rinsed out. Emptied containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of split material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

· **14.1 UN-Number**

· **ADR, IMDG, IATA**

UN1993

· **14.2 UN proper shipping name**

· **ADR**

1993 FLAMMABLE LIQUID, N.O.S. (Hydrocarbons, C9, Aromatics), ENVIRONMENTALLY HAZARDOUS

· **IMDG**

FLAMMABLE LIQUID, N.O.S. (Hydrocarbons, C9, Aromatics), MARINE POLLUTANT

· **IATA**

FLAMMABLE LIQUID, N.O.S. (Hydrocarbons, C9, Aromatics)

· **14.3 Transport hazard class(es)**

· **ADR, IMDG**



· **Class**

3 Flammable liquids.

· **Label**

3

· **IATA**



· **Class**

3 Flammable liquids.

· **Label**

3

· **14.4 Packing group**

· **ADR, IMDG, IATA**

III

· **14.5 Environmental hazards:**

Product contains environmentally hazardous substances: Hydrocarbons, C9, Aromatics

· **Marine pollutant:**

Yes

Symbol (fish and tree)

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Trade name: HFA 8760

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· Special marking (ADR):	Symbol (fish and tree)
· 14.6 Special precautions for user	Warning: Flammable liquids.
· Danger code (Kemler):	30
· EMS Number:	F-E,S-E
· 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	5L
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· Transport category	3
· Tunnel restriction code	D/E
· IMDG	
· Limited quantities (LQ)	5L
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· UN "Model Regulation":	UN1993, FLAMMABLE LIQUID, N.O.S. (Hydrocarbons, C9, Aromatics), ENVIRONMENTALLY HAZARDOUS, 3, III

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
No further relevant information available.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant phrases**
H226 Flammable liquid and vapour.
H304 May be fatal if swallowed and enters airways.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
H411 Toxic to aquatic life with long lasting effects.
R10 Flammable.
R37 Irritating to respiratory system.
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R66 Repeated exposure may cause skin dryness or cracking.
R67 Vapours may cause drowsiness and dizziness.
- **Department issuing MSDS:** Product safety department
- **Contact:** Mr. G.C. Spruijt
- **Abbreviations and acronyms:**
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances

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*ELINCS: European List of Notified Chemical Substances**CAS: Chemical Abstracts Service (division of the American Chemical Society)**LC50: Lethal concentration, 50 percent**LD50: Lethal dose, 50 percent**Flam. Liq. 3: Flammable liquids, Hazard Category 3**Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2**STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3**Asp. Tox. 1: Aspiration hazard, Hazard Category 1**Aquatic Acute 1: Hazardous to the aquatic environment - AcuteHazard, Category 1**Aquatic Chronic 2: Hazardous to the aquatic environment - Chronic Hazard, Category 2*

GB

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name: HFA 62

1.2 Relevant identified uses of the substance or mixture and uses advised against

Marker

Sector of Use SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites

Product category PC13 Fuels

Application of the substance / the mixture Additive

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

WRT B.V.

Strawinskylaan 3067

1077ZX Amsterdam

The Netherlands

Tel.: 00-31-(0)20-644 2831

Fax.: 00-31-(0)20-642 3962

info@wrtbv.com

Further information obtainable from:

Product Safety Department

Tel.: 00-31-(0)-644 2831

info@wrtbv.com

Support is only given in the following languages: Dutch, English and German

1.4 Emergency telephone number:

Product Safety department

In case of a spill or accident, you can contact us at:

Tel.: 00-31-(0)20-644 2831

During office hours we can be contacted for general information at

Tel.: 00-31-(0)20-6442831

Support is only given in the following languages: Dutch, English, and German

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008



GHS08 health hazard

Carc. 2 H351 Suspected of causing cancer.

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.

Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.



GHS09 environment

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Skin Sens. 1 H317 May cause an allergic skin reaction.

(Contd. on page 2)

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STOT SE 3 H336 May cause drowsiness or dizziness.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC



Xn; Harmful

R40-48/22-65: Limited evidence of a carcinogenic effect. Harmful: danger of serious damage to health by prolonged exposure if swallowed. Harmful: may cause lung damage if swallowed.



Xi; Sensitising

R43: May cause sensitisation by skin contact.



N; Dangerous for the environment

R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Information concerning particular hazards for human and environment:

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

Classification system:

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the CLP regulation.

Hazard pictograms



GHS07



GHS08



GHS09

Signal word Danger

Hazard-determining components of labelling:

Solvent naphtha (petroleum), heavy arom. naphthalene

Hazard statements

H302 Harmful if swallowed.

H317 May cause an allergic skin reaction.

H351 Suspected of causing cancer.

H336 May cause drowsiness or dizziness.

H373 May cause damage to organs through prolonged or repeated exposure.

H304 May be fatal if swallowed and enters airways.

H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

P321 Specific treatment (see on this label).

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

GB

(Contd. on page 3)

Trade name: HFA 62

(Contd. of page 2)

SECTION 3: Composition/information on ingredients

3.2 Chemical characterisation: Mixtures

Description: Mixture of substances listed below with nonhazardous additions.

Dangerous components:

CAS: 64742-94-5 EC number: 919-284-0 Reg.nr.: 01-2119463583-34	Solvent naphtha (petroleum), heavy arom. Xn R65 Asp. Tox. 1, H304	30 - 40%
CAS: 91-20-3 EINECS: 202-049-5 Reg.nr.: 01-2119561346-37	naphthalene Xn R22-40; N R50/53 Carc. Cat. 3 Carc. 2, H351; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Acute Tox. 4, H302	3 - 5%
CAS: 34432-92-3 EINECS: 252-021-1 Reg.nr.: 01-2119974150-43	C.I. Solvent Yellow 124	55 - 60%

Additional information: For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information:

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

After inhalation:

Supply fresh air and to be sure call for a doctor.

In case of unconsciousness place patient stably in side position for transportation.

After skin contact: Immediately wash with water and soap and rinse thoroughly.

After eye contact: Rinse opened eye for several minutes under running water.

After swallowing: If symptoms persist consult doctor.

4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed

If ingested, material may be aspirated into the lungs and cause chemical pneumonitis. Treat appropriately.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing agents:

CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

For safety reasons unsuitable extinguishing agents: Water with full jet

5.2 Special hazards arising from the substance or mixture

No further relevant information available.

5.3 Advice for firefighters

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from the fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Protective equipment:

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Trade name: HFA 62

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Wear impervious clothing and self contained breathing apparatus. Use water to keep fire-exposed containers cool. If a leak or spill has not ignited use water spray to disperse the vapours and to provide protection for personnel attempting to stop a leak. Take care not to spread the fire with water. Contain fire-fighting water to prevent ingress to watercourses as it will cause oil pollution.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures** Not required.
- **6.2 Environmental precautions:**
*Do not allow product to reach sewage system or any water course.
 Inform respective authorities in case of seepage into water course or sewage system.
 Do not allow to enter sewers/ surface or ground water.*
- **6.3 Methods and material for containment and cleaning up:**
*Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
 Remove all sources of ignition and sources of naked flame that could come in contact with spilled or leaked material.
 Pick up small spilled quantities of the material with an inert absorptionproduct. Dispose of as dangerous waste.
 Large spills of the material should be contained and removed with a explosion safe vacuum cleaner, if possible recycle. Clean up leftovers with an inert absorptionproduct. Dispose of as dangerous waste.
 Dispose contaminated material as waste according to item 13.
 Ensure adequate ventilation.*
- **6.4 Reference to other sections**
*See Section 7 for information on safe handling.
 See Section 8 for information on personal protection equipment.
 See Section 13 for disposal information.*

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
*Ensure good ventilation/exhaustion at the workplace.
 Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material. Empty containers retain product and can be hazardous.
 Prevent formation of aerosols.*
- **Information about fire - and explosion protection:** No special measures required.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** None.
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.

(Contd. on page 5)

Trade name: HFA 62

(Contd. of page 4)

8.1 Control parameters

Ingredients with limit values that require monitoring at the workplace:

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

Additional information: The lists valid during the making were used as basis.

8.2 Exposure controls

Personal protective equipment:

General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.

Respiratory protection:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection: Goggles recommended during refilling

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information

Appearance:

Form:	Liquid
Colour:	Dark yellow
Odour:	Petroleum hydrocarbon odour
Odour threshold:	Not determined.

pH-value at 20 °C:	11
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Change in condition

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	140 °C

Flash point:	> 62 °C
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Flammability (solid, gaseous):	Not applicable.
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(Contd. on page 6)

Trade name: HFA 62

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· Ignition temperature:	540 °C
· Decomposition temperature:	Not determined.
· Self-igniting:	Product is not selfigniting.
· Danger of explosion:	Product does not present an explosion hazard.
· Explosion limits:	
Lower:	1.0 Vol %
Upper:	8.0 Vol %
· Vapour pressure:	Not determined.
· Density at 15 °C:	0.801 - 1.01 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with water:	Not miscible or difficult to mix.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic at 40 °C:	17.5 mm ² /s
· 9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid**
High temperature
Sources of ignition
Avoid the build-up of electrostatic charge
- **10.5 Incompatible materials:** Strong oxidizing agents
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity**
Harmful if swallowed.

· **LD/LC50 values relevant for classification:**

91-20-3 naphthalene

Oral	LD50	490 mg/kg (rat)
Dermal	LD50	5000 mg/kg (rat)

(Contd. on page 7)

Trade name: HFA 62

(Contd. of page 6)

- **Primary irritant effect:**
- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
- **Respiratory or skin sensitisation**
May cause an allergic skin reaction.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity**
Suspected of causing cancer.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure**
May cause drowsiness or dizziness.
- **STOT-repeated exposure**
May cause damage to organs through prolonged or repeated exposure.
- **Aspiration hazard**
May be fatal if swallowed and enters airways.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Toxic for fish
- **Additional ecological information:**
- **General notes:**
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
Toxic for aquatic organisms
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
The generation of waste should be avoided or minimised wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used

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Trade name: HFA 62

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containers unless they have been cleaned thoroughly internally. Avoid dispersal of split material and runoff and contact with soil, waterways, drains and sewers.

· **Uncleaned packaging:**

· **Recommendation:**

The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.
Disposal must be made according to official regulations.

SECTION 14: Transport information

· **14.1 UN-Number**

· **ADR, IMDG, IATA**

UN3082

· **14.2 UN proper shipping name**

· **ADR**

3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (C.I. Solvent Yellow 124, NAPHTHALENE, CRUDE)

· **IMDG**

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (C.I. Solvent Yellow 124, NAPHTHALENE, CRUDE), MARINE POLLUTANT

· **IATA**

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (C.I. Solvent Yellow 124, NAPHTHALENE, CRUDE)

· **14.3 Transport hazard class(es)**

· **ADR, IMDG, IATA**



· **Class**

9 Miscellaneous dangerous substances and articles.

· **Label**

9

· **14.4 Packing group**

· **ADR, IMDG, IATA**

III

· **14.5 Environmental hazards:**

Product contains environmentally hazardous substances: C.I. Solvent Yellow 124, naphthalene

· **Marine pollutant:**

Yes

Symbol (fish and tree)

· **Special marking (ADR):**

Symbol (fish and tree)

· **Special marking (IATA):**

Symbol (fish and tree)

· **14.6 Special precautions for user**

Warning: Miscellaneous dangerous substances and articles.

· **Danger code (Kemler):**

90

· **EMS Number:**

F-A, S-F

· **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code**

Not applicable.

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· Transport/Additional information:

· ADR

· Limited quantities (LQ)

5L

· Excepted quantities (EQ)

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

· Transport category

3

· Tunnel restriction code

E

· IMDG

· Limited quantities (LQ)

5L

· Excepted quantities (EQ)

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

· UN "Model Regulation":

UN3082, ENVIRONMENTALLY HAZARDOUS
SUBSTANCE, LIQUID, N.O.S. (C.I. Solvent Yellow 124,
NAPHTHALENE, CRUDE), 9, III

SECTION 15: Regulatory information

· 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

No further relevant information available.

· 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Relevant phrases

H302 Harmful if swallowed.

H304 May be fatal if swallowed and enters airways.

H351 Suspected of causing cancer.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

R22 Harmful if swallowed.

R40 Limited evidence of a carcinogenic effect.

R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R65 Harmful: may cause lung damage if swallowed.

· Department issuing MSDS: Product safety department

· Contact: Mr. G.C. Spruijt

· Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

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PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Acute Tox. 4: Acute toxicity, Hazard Category 4
Skin Sens. 1: Sensitisation - Skin, Hazard Category 1
Carc. 2: Carcinogenicity, Hazard Category 2
STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3
STOT RE 2: Specific target organ toxicity - Repeated exposure, Hazard Category 2
Asp. Tox. 1: Aspiration hazard, Hazard Category 1
Aquatic Acute 1: Hazardous to the aquatic environment - Acute Hazard, Category 1
Aquatic Chronic 1: Hazardous to the aquatic environment - Chronic Hazard, Category 1
Aquatic Chronic 2: Hazardous to the aquatic environment - Chronic Hazard, Category 2

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Safety data sheet according to 453/2010/EC

Printing date 18.03.2016

Version number 1

Revision: 18.03.2016

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name: HFA 74

1.2 Relevant identified uses of the substance or mixture and uses advised against

Sector of Use SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites

Product category PC13 Fuels

Application of the substance / the mixture Additive

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

WRT B.V.

Strawinskylaan 3067

1077ZX Amsterdam

The Netherlands

Tel.: 00-31-(0)20-644 2831

Fax.: 00-31-(0)20-642 3962

info@wrtbv.com

Further information obtainable from:

Product Safety Department

Tel.: 00-31-(0)-644 2831

info@wrtbv.com

Support is only given in the following languages: Dutch, English and German

1.4 Emergency telephone number:

Product Safety department

In case of a spill or accident, you can contact us at:

Tel.: 00-31-(0)20-644 2831

During office hours we can be contacted for general information at

Tel.: 00-31-(0)20-6442831

Support is only given in the following languages: Dutch, English, and German

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008



GHS08 health hazard

Carc. 2

H351 Suspected of causing cancer.



GHS09 environment

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.



GHS07

STOT SE 3

H336 May cause drowsiness or dizziness.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC



Xn; Harmful

R40-65: Limited evidence of a carcinogenic effect. Harmful: may cause lung damage if swallowed.

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N; Dangerous for the environment

R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R66-67: Repeated exposure may cause skin dryness or cracking. Vapours may cause drowsiness and dizziness.

Information concerning particular hazards for human and environment:

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

At long or repeated contact with skin it may cause dermatitis due to the degreasing effect of the solvent.

Classification system:

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the CLP regulation.

Hazard pictograms



GHS07



GHS08



GHS09

Signal word Warning

Hazard statements

H351 Suspected of causing cancer.

H336 May cause drowsiness or dizziness.

H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P103 Read label before use.

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P312 Call a POISON CENTER/doctor if you feel unwell.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Additional information:

EUH066 Repeated exposure may cause skin dryness or cracking.

2.3 Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.



vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

3.2 Chemical characterisation: Mixtures

Description: Mixture of substances listed below with nonhazardous additions.

Dangerous components:

CAS: 64742-94-5	Solvent naphtha (petroleum), heavy arom.	 Xn R65	50.0%
EC number: 919-284-0		 Asp. Tox. 1, H304	
Reg.nr.: 01-2119463583-34			

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Trade name: HFA 74

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· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

· **4.1 Description of first aid measures**

· **After inhalation:** Supply fresh air; consult doctor in case of complaints.

· **After skin contact:**

Remove contaminated clothing as soon as possible; this will be a fire hazard. Wash exposed skin thoroughly with soap and water. If irritation persists, consult a physician. Launder contaminated clothing before re-use. Badly contaminated leather shoes or clothing be discarded.

· **After eye contact:**

Check for and remove any contact lenses

Immediately wash with fresh water for at least 15 minutes.

· **After swallowing:**

If this material is swallowed DO NOT INDUCE VOMITING. If vomiting begins, lower victim's head in an effort to prevent vomit from entering the lungs. IMMEDIATELY SEEK MEDICAL ASSISTANCE. If victim is unconscious do not attempt to administer fluids, place in recovery position and protect airway.

If symptoms persist consult doctor.

· **4.2 Most important symptoms and effects, both acute and delayed**

No further relevant information available.

· **4.3 Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

SECTION 5: Firefighting measures

· **5.1 Extinguishing media**

· **Suitable extinguishing agents:**

CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· **For safety reasons unsuitable extinguishing agents:** Water with full jet

· **5.2 Special hazards arising from the substance or mixture**

In case of fire, the following can be released:

Carbon monoxide (CO)

Carbon dioxide (CO₂)

· **5.3 Advice for firefighters**

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from the fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

· **Protective equipment:**

Wear impervious clothing and self contained breathing apparatus. Use water to keep fire-exposed containers cool. If a leak or spill has not ignited use water spray to disperse the vapours and to provide protection for personnel attempting to stop a leak. Take care not to spread the fire with water. Contain fire-fighting water to prevent ingress to watercourses as it will cause oil pollution.

SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures** Not required.

· **6.2 Environmental precautions:**

Inform respective authorities in case of seepage into water course or sewage system.

Do not allow to enter sewers/ surface or ground water.

· **6.3 Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

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6.4 Reference to other sections

- See Section 7 for information on safe handling.
- See Section 8 for information on personal protection equipment.
- See Section 13 for disposal information.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling** No special precautions are necessary if used correctly.
- **Information about fire - and explosion protection:** No special measures required.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** None.
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **8.1 Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists valid during the making were used as basis.
- **8.2 Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Wash hands before breaks and at the end of work.
- **Respiratory protection:** Not required.
- **Protection of hands:**
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:** Goggles recommended during refilling

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Trade name: HFA 74

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SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· General Information

· Appearance:

Form:

Liquid

Colour:

Blue

· **Odour:**

Petroleum hydrocarbon odour

· **Odour threshold:**

Not determined.

· **pH-value:**

Not determined.

· Change in condition

Melting point/Melting range:

Undetermined.

Boiling point/Boiling range:

185 - 215 °C

Solidification point:

< minus 25 °C

· **Flash point:**

> 61 °C

· **Flammability (solid, gaseous):**

Not applicable.

· **Ignition temperature:**

425 °C

· **Decomposition temperature:**

Not determined.

· **Self-igniting:**

Product is not selfigniting.

· **Danger of explosion:**

Product does not present an explosion hazard.

· **Explosion limits:**

Lower:

0,7 Vol %

Upper:

6,0 Vol %

· **Vapour pressure:**

Not determined.

· **Density at 15 °C:**

0.98 g/cm³

· **Relative density**

Not determined.

· **Vapour density**

Not determined.

· **Evaporation rate**

Not determined.

· **Solubility in / Miscibility with water:**

Not miscible or difficult to mix.

· **Partition coefficient (n-octanol/water):** Not determined.

· **Viscosity:**

Dynamic at 20 °C:

25 mPas

Kinematic:

Not determined.

· **9.2 Other information**

No further relevant information available.

SECTION 10: Stability and reactivity

· **10.1 Reactivity** No further relevant information available.

· **10.2 Chemical stability**

· **Thermal decomposition / conditions to be avoided:**

No decomposition if used according to specifications.

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- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid**
 High temperature
 Sources of ignition
 Avoid the build-up of electrostatic charge
- **10.5 Incompatible materials:**
 -acids
 -alkalis
 -oxidizing materials
 -reducing materials
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity** Based on available data, the classification criteria are not met.
- **Primary irritant effect:**
- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity**
 Suspected of causing cancer.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure**
 May cause drowsiness or dizziness.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Toxic for fish
- **Additional ecological information:**
- **General notes:**
 Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
 Do not allow product to reach ground water, water course or sewage system.
 Danger to drinking water if even small quantities leak into the ground.
 Also poisonous for fish and plankton in water bodies.
 Toxic for aquatic organisms
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

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Trade name: HFA 74

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· **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**

· **Recommendation**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packaging:**

· **Recommendation:** Disposal must be made according to official regulations.

SECTION 14: Transport information

· **14.1 UN-Number**

· **ADR, IMDG, IATA**

UN3082

· **14.2 UN proper shipping name**

· **ADR**

3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (NAPHTHALENE, CRUDE)

· **IMDG**

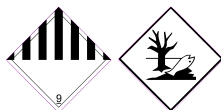
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (NAPHTHALENE, CRUDE), MARINE POLLUTANT

· **IATA**

Environmentally hazardous substance, liquid, n.o.s. (Naphthalene, crude)

· **14.3 Transport hazard class(es)**

· **ADR, IMDG**



· **Class**

9 Miscellaneous dangerous substances and articles.

· **Label**

9

· **IATA**



· **Class**

Void

· **Label**

9

· **14.4 Packing group**

· **ADR, IMDG, IATA**

III

· **14.5 Environmental hazards:**

· **Marine pollutant:**

Symbol (fish and tree)

· **Special marking (ADR):**

Symbol (fish and tree)

· **14.6 Special precautions for user**

Warning: Miscellaneous dangerous substances and articles.

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· EMS Number:	F-A, S-F
· Stowage Category	A
· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	5L
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· UN "Model Regulation":	UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (NAPHTHALENE, CRUDE), 9, III

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **Seveso category E2** Hazardous to the Aquatic Environment
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 200 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 500 t
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant phrases**

H304 May be fatal if swallowed and enters airways.

R65 Harmful: may cause lung damage if swallowed.

- **Department issuing MSDS:** Product safety department

- **Contact:** Mr. G.C. Spruijt

- **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

VOC: Volatile Organic Compounds (USA, EU)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Carc. 2: Carcinogenicity, Hazard Category 2

STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

Asp. Tox. 1: Aspiration hazard, Hazard Category 1

Aquatic Chronic 2: Hazardous to the aquatic environment - Chronic Hazard, Category 2

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name: HFA 1125

1.2 Relevant identified uses of the substance or mixture and uses advised against

Cloud Point Improver

Sector of Use SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites

Product category PC13 Fuels

Application of the substance / the mixture Additive

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

WRT B.V.

Strawinskylaan 3067

1077ZX Amsterdam

The Netherlands

Tel.: 00-31-(0)20-644 2831

Fax.: 00-31-(0)20-642 3962

info@wrtbv.com

Further information obtainable from:

Product Safety Department

Tel.: 00-31-(0)-644 2831

info@wrtbv.com

Support is only given in the following languages: Dutch, English and German

1.4 Emergency telephone number:

Product Safety department

In case of a spill or accident, you can contact us at:

Tel.: 00-31-(0)20-644 2831

During office hours we can be contacted for general information at

Tel.: 00-31-(0)20-6442831

Support is only given in the following languages: Dutch, English, and German

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008



GHS02 flame

Flam. Liq. 3 H226 Flammable liquid and vapour.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2 H319 Causes serious eye irritation.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC



Xi; Irritant

R36/38: Irritating to eyes and skin.

R10: Flammable.

Information concerning particular hazards for human and environment:

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

(Contd. on page 2)

Trade name: HFA 1125

(Contd. of page 1)

Classification system:

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

2.2 Label elements
Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the CLP regulation.

Hazard pictograms


GHS02 GHS07

Signal word Warning

Hazard statements

H226 Flammable liquid and vapour.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

Precautionary statements

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P103 Read label before use.

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P241 Use explosion-proof electrical/ventilating/lighting/equipment.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P321 Specific treatment (see on this label).

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.






2.3 Other hazards
Results of PBT and vPvB assessment
PBT: Not applicable.

vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

3.2 Chemical characterisation: Mixtures
Description: Mixture of substances listed below with nonhazardous additions.

Dangerous components:

CAS: 8008-20-6	Kerosine (petroleum)	40 - 55%
EINECS: 232-366-4	 Xn R65	
Reg.nr.: 01-2119485517-27	 Flam. Liq. 3, H226;  Asp. Tox. 1, H304	
CAS: 37205-87-1	Isononylphenol, ethoxylated	30 - 55%
	 Xi R36/38	
	 Skin Irrit. 2, H315; Eye Irrit. 2, H319	

Additional information: For the wording of the listed hazard phrases refer to section 16.

GB

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SECTION 4: First aid measures

4.1 Description of first aid measures

- **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
Check for and remove any contact lenses
- **After swallowing:**
If symptoms persist consult doctor.
If this material is swallowed DO NOT INDUCE VOMITING. If vomiting begins, lower victim's head in an effort to prevent vomit from entering the lungs. IMMEDIATELY SEEK MEDICAL ASSISTANCE. If victim is unconscious do not attempt to administer fluids, place in recovery position and protect airway.

4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing agents:

CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

For safety reasons unsuitable extinguishing agents:

Water with full jet

5.2 Special hazards arising from the substance or mixture

In case of fire, the following can be released:

Carbon monoxide (CO)

Carbon dioxide (CO₂)

5.3 Advice for firefighters

Protective equipment:

Wear impervious clothing and self contained breathing apparatus. Use water to keep fire-exposed containers cool. If a leak or spill has not ignited use water spray to disperse the vapours and to provide protection for personnel attempting to stop a leak. Take care not to spread the fire with water. Contain fire-fighting water to prevent ingress to watercourses as it will cause oil pollution.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

6.2 Environmental precautions:

Dilute with plenty of water.

Do not allow to enter sewers/ surface or ground water.

6.3 Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Ensure adequate ventilation.

6.4 Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

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SECTION 7: Handling and storage

7.1 Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.

Information about fire - and explosion protection:

Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.

7.2 Conditions for safe storage, including any incompatibilities

Storage:

Requirements to be met by storerooms and receptacles: No special requirements.

Information about storage in one common storage facility: Not required.

Further information about storage conditions: Keep container tightly sealed.

7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

Additional information about design of technical facilities: No further data; see item 7.

8.1 Control parameters

Ingredients with limit values that require monitoring at the workplace:

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

Additional information: The lists valid during the making were used as basis.

8.2 Exposure controls

Personal protective equipment:

General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.

Respiratory protection:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

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· **Eye protection:**



Tightly sealed goggles

· **Body protection:** Protective work clothing

SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· General Information

· Appearance:

Form:	Liquid
Colour:	Amber coloured
Odour:	Aromatic
Odour threshold:	Not determined.

· **pH-value:** Not determined.

· Change in condition

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	165 °C
Pour point	15 °C

· **Flash point:** > 55 °C

· **Flammability (solid, gaseous):** Not applicable.

· Ignition temperature:

Decomposition temperature: Not determined.

· **Self-igniting:** Product is not selfigniting.

· **Danger of explosion:** Not determined.

· Explosion limits:

Lower:	Not determined.
Upper:	Not determined.

· **Vapour pressure:** Not determined.

· **Density at 15 °C:** 0.89 - 0.915 g/cm³

· **Relative density** Not determined.

· **Vapour density** Not determined.

· **Evaporation rate** Not determined.

· **Solubility in / Miscibility with water:**

Insoluble.

· **Partition coefficient (n-octanol/water):** Not determined.

· Viscosity:

Dynamic at 20 °C:	56 mPas
Kinematic:	Not determined.

(Contd. on page 6)

Trade name: HFA 1125

(Contd. of page 5)

9.2 Other information

No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid**
High temperature
Sources of ignition
Avoid the build-up of electrostatic charge
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity** Based on available data, the classification criteria are not met.
- **LD/LC50 values relevant for classification:**
- **37205-87-1 Isononylphenol, ethoxylated**
- Oral LD50 >2000 mg/kg (rat)
- **Primary irritant effect:**
- **Skin corrosion/irritation**
Causes skin irritation.
- **Serious eye damage/irritation**
Causes serious eye irritation.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water

(Contd. on page 7)

Trade name: HFA 1125

(Contd. of page 6)

Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.

12.5 Results of PBT and vPvB assessment

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Recommendation

The generation of waste should be avoided or minimised wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of split material and runoff and contact with soil, waterways, drains and sewers.

Uncleaned packaging:

Recommendation:

Disposal must be made according to official regulations.

This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have been cleaned or rinsed out. Emptied containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of split material and runoff and contact with soil, waterways, drains and sewers.

· **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

SECTION 14: Transport information

14.1 UN-Number

· **ADR, IMDG, IATA**

UN1993

14.2 UN proper shipping name

· **ADR**

1993 FLAMMABLE LIQUID, N.O.S. (KEROSENE)

· **IMDG, IATA**

FLAMMABLE LIQUID, N.O.S. (KEROSENE)

14.3 Transport hazard class(es)

· **ADR, IMDG, IATA**



· **Class**

3 Flammable liquids.

· **Label**

3

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Trade name: HFA 1125

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· 14.4 Packing group	
· ADR, IMDG, IATA	III
· 14.5 Environmental hazards:	
· Marine pollutant:	No
· Special marking (ADR):	Symbol (fish and tree)
· 14.6 Special precautions for user	Warning: Flammable liquids.
· Danger code (Kemler):	30
· EMS Number:	F-E, S-E
· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	5L
· Transport category	3
· Tunnel restriction code	D/E
· UN "Model Regulation":	UN1993, FLAMMABLE LIQUID, N.O.S. (KEROSENE), 3, III

SECTION 15: Regulatory information

· **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

No further relevant information available.

· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant phrases**

H226 Flammable liquid and vapour.

H304 May be fatal if swallowed and enters airways.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

R36/38 Irritating to eyes and skin.

R65 Harmful: may cause lung damage if swallowed.

· **Department issuing SDS:** Product safety department

· **Contact:** Mr. G.C. Spruijt

· **Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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*CAS: Chemical Abstracts Service (division of the American Chemical Society)**LC50: Lethal concentration, 50 percent**LD50: Lethal dose, 50 percent**PBT: Persistent, Bioaccumulative and Toxic**vPvB: very Persistent and very Bioaccumulative**SVHC: Substances of Very High Concern**Flam. Liq. 3: Flammable liquids – Category 3**Skin Irrit. 2: Skin corrosion/irritation – Category 2**Eye Irrit. 2: Serious eye damage/eye irritation – Category 2**Asp. Tox. 1: Aspiration hazard – Category 1*

GB

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name: HFA 2084

1.2 Relevant identified uses of the substance or mixture and uses advised against
RON / MON Improver

Sector of Use SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites

Application of the substance / the mixture Additive

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

WRT B.V.

Strawinskylaan 3067

1077ZX Amsterdam

The Netherlands

Tel.: 00-31-(0)20-644 2831

Fax.: 00-31-(0)20-642 3962

info@wrtbv.com

Further information obtainable from:

Product Safety Department

Tel.: 00-31-(0)-644 2831

info@wrtbv.com

Support is only given in the following languages: Dutch, English and German

1.4 Emergency telephone number:

During normal opening times: +31 2064 42831

Product Safety department

In case of a spill or accident, you can contact us at:

Tel.: 00-31-(0)20-644 2831

During office hours we can be contacted for general information at

Tel.: 00-31-(0)20-6442831

Support is only given in the following languages: Dutch, English, and German

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008



GHS02 flame

Flam. Liq. 2 H225 Highly flammable liquid and vapour.



GHS06 skull and crossbones

Acute Tox. 3 H311 Toxic in contact with skin.

Acute Tox. 3 H331 Toxic if inhaled.



GHS08 health hazard

Repr. 2 H361d Suspected of damaging the unborn child.

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.

Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.

(Contd. on page 2)

Trade name: HFA 2084

(Contd. of page 1)



GHS07

Acute Tox. 4 H302 Harmful if swallowed.
Skin Irrit. 2 H315 Causes skin irritation.
STOT SE 3 H336 May cause drowsiness or dizziness.
Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC



T; Toxic

R23/24: Toxic by inhalation and in contact with skin.



Xn; Harmful

R22-48/20/21/22-63-65: Harmful if swallowed. Harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed. Possible risk of harm to the unborn child. Harmful: may cause lung damage if swallowed.



Xi; Irritant

R38: Irritating to skin.



F; Highly flammable

R11: Highly flammable.

R52/53-67: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Vapours may cause drowsiness and dizziness.

Information concerning particular hazards for human and environment:

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

Classification system:

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the CLP regulation.

Hazard pictograms



GHS02



GHS06



GHS08

Signal word Danger

Hazard-determining components of labelling:

tricarbonyl(methylcyclopentadienyl)manganese
toluene
ferrocene
1,2,4-trimethylbenzene

Hazard statements

H225 Highly flammable liquid and vapour.
H302 Harmful if swallowed.
H311+H331 Toxic in contact with skin or if inhaled.
H315 Causes skin irritation.
H361d Suspected of damaging the unborn child.

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- H336 May cause drowsiness or dizziness.
H373 May cause damage to organs through prolonged or repeated exposure.
H304 May be fatal if swallowed and enters airways.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

- P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P103 Read label before use.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P241 Use explosion-proof electrical/ventilating/lighting/equipment.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards

Results of PBT and vPvB assessment

- PBT:** Not applicable.
vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

3.2 Chemical characterisation: Mixtures

Description: Mixture of substances listed below with nonhazardous additions.

Dangerous components:

CAS: 108-88-3 EINECS: 203-625-9 Reg.nr.: 01-2119471310-51	toluene Xn R48/20-63-65; Xi R38; F R11 R67 Repr. Cat. 3 Flam. Liq. 2, H225; Repr. 2, H361d; STOT RE 2, H373; Asp. Tox. 1, H304; Skin Irrit. 2, H315; STOT SE 3, H336	40 - 50%
CAS: 12108-13-3 EINECS: 235-166-5 Reg.nr.: 01-2119495971-23	tricarbonyl(methylcyclopentadienyl)manganese T+ R26; T R24/25 Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 1, H330	25 - 35%
CAS: 95-63-6 EINECS: 202-436-9 Reg.nr.: 05-2117202756-46	1,2,4-trimethylbenzene Xn R20; Xi R36/37/38; N R51/53 R10 Flam. Liq. 3, H226; Aquatic Chronic 2, H411; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	2.5 - 5%
CAS: 64742-47-8 EINECS: 265-149-8 Reg.nr.: 01-2119484819-18	Distillates (petroleum), hydrotreated light Xn R65 Flam. Liq. 3, H226; Asp. Tox. 1, H304	3 - 5%
CAS: 102-54-5 EINECS: 203-039-3 Reg.nr.: 01-2119978280-34	ferrocene Xn R22; F R11; N R51/53 Flam. Sol. 1, H228; Aquatic Chronic 2, H411; Acute Tox. 4, H302	3 - 5%
CAS: 108-67-8 EINECS: 203-604-4 Reg.nr.: 01-2119463878-19	mesitylene Xi R37; N R51/53 R10 Flam. Liq. 3, H226; Aquatic Chronic 2, H411; STOT SE 3, H335	2 - 3%

(Contd. on page 4)

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CAS: 103-65-1 EINECS: 203-132-9	propylbenzene Xn R65; Xi R37; N R51/53 R10 Flam. Liq. 3, H226; Asp. Tox. 1, H304; Aquatic Chronic 2, H411; STOT SE 3, H335	2 - 3%
CAS: 1330-20-7 EINECS: 215-535-7 Reg.nr.: 01-2119488216-32	xylene Xn R20/21; Xi R38 R10 Flam. Liq. 3, H226; Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315	2 - 3%
CAS: 98-82-8 EINECS: 202-704-5	cumene Xn R65; Xi R37; N R51/53 R10 Flam. Liq. 3, H226; Asp. Tox. 1, H304; Aquatic Chronic 2, H411; STOT SE 3, H335	1 - 2%

Additional information: For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information:

Immediately remove any clothing soiled by the product.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

Remove breathing equipment only after contaminated clothing have been completely removed.

In case of irregular breathing or respiratory arrest provide artificial respiration.

After inhalation:

Supply fresh air or oxygen; call for doctor.

In case of unconsciousness place patient stably in side position for transportation.

After skin contact: Immediately wash with water and soap and rinse thoroughly.

After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.

After swallowing: Do not induce vomiting; call for medical help immediately.

4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing agents: CO₂, sand, extinguishing powder. Do not use water.

For safety reasons unsuitable extinguishing agents: Water with full jet

5.2 Special hazards arising from the substance or mixture

No further relevant information available.

5.3 Advice for firefighters

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from the fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Protective equipment: Mouth respiratory protective device.

GB

(Contd. on page 5)

Trade name: HFA 2084

(Contd. of page 4)

SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

· **6.2 Environmental precautions:**

Do not allow product to reach sewage system or any water course.

Inform respective authorities in case of seepage into water course or sewage system.

Do not allow to enter sewers/ surface or ground water.

· **6.3 Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Do not flush with water or aqueous cleansing agents

· **6.4 Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

Prevent formation of aerosols.

· **Information about fire - and explosion protection:**

Keep ignition sources away - Do not smoke.

Protect from heat.

Protect against electrostatic charges.

Keep respiratory protective device available.

· **7.2 Conditions for safe storage, including any incompatibilities**

· **Storage:**

· **Requirements to be met by storerooms and receptacles:** Store in a cool location.

· **Information about storage in one common storage facility:** Not required.

· **Further information about storage conditions:**

Keep container tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

Protect from heat and direct sunlight.

· **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· **Additional information about design of technical facilities:** No further data; see item 7.

· **8.1 Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

108-88-3 toluene

WEL Short-term value: 384 mg/m³, 100 ppm

Long-term value: 191 mg/m³, 50 ppm

Sk

(Contd. on page 6)

Trade name: HFA 2084

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95-63-6 1,2,4-trimethylbenzene	
WEL	Long-term value: 125 mg/m ³ , 25 ppm ILV
108-67-8 mesitylene	
WEL	Long-term value: 125 mg/m ³ , 25 ppm ILV
1330-20-7 xylene	
WEL	Short-term value: 441 mg/m ³ , 100 ppm Long-term value: 220 mg/m ³ , 50 ppm Sk; BMGV
98-82-8 cumene	
WEL	Short-term value: 250 mg/m ³ , 50 ppm Long-term value: 125 mg/m ³ , 25 ppm Sk
Ingredients with biological limit values:	
1330-20-7 xylene	
BMGV	650 mmol/mol creatinine Medium: urine Sampling time: post shift Parameter: methyl hippuric acid

Additional information: The lists valid during the making were used as basis.

8.2 Exposure controls

Personal protective equipment:

General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Store protective clothing separately.
Avoid contact with the skin.
Avoid contact with the eyes and skin.

Respiratory protection:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

For the permanent contact gloves made of the following materials are suitable:

Fluorocarbon rubber (Viton)
Nitrile rubber, NBR

(Contd. on page 7)

Trade name: HFA 2084

(Contd. of page 6)

· **Eye protection:**



Tightly sealed goggles

· **Body protection:** Protective work clothing

SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· General Information

· Appearance:

Form:

Liquid

Colour:

Brown

· Odour:

Petroleum hydrocarbon odour

· Odour threshold:

Not determined.

· pH-value:

Not determined.

· Change in condition

Boiling point/Boiling range:

110 °C

· Flash point:

11 °C

· Flammability (solid, gaseous):

Not applicable.

· Ignition temperature:

0 °C

· Decomposition temperature:

Not determined.

· Self-igniting:

Product is not selfigniting.

· Danger of explosion:

Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

· Explosion limits:

Lower:

0.0 Vol %

Upper:

7.0 Vol %

· Vapour pressure at 20 °C:

29 hPa

· Density at 15 °C:

1.02 g/cm³

· Relative density

Not determined.

· Vapour density

Not determined.

· Evaporation rate

Not determined.

· Solubility in / Miscibility with water:

Not miscible or difficult to mix.

· Partition coefficient (n-octanol/water): Not determined.

· Viscosity:

Dynamic:

Not determined.

Kinematic:

Not determined.

(Contd. on page 8)

Trade name: HFA 2084

(Contd. of page 7)

9.2 Other information

No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Harmful if swallowed.

Toxic in contact with skin or if inhaled.

LD/LC50 values relevant for classification:

108-88-3 toluene

Oral	LD50	5000 mg/kg (rat)
Dermal	LD50	12124 mg/kg (rabbit)
Inhalative	LC50/4 h	5320 mg/l (mouse)

95-63-6 1,2,4-trimethylbenzene

Oral	LD50	5000 mg/kg (rat)
------	------	------------------

102-54-5 ferrocene

Oral	LD50	1320 mg/kg (rat)
------	------	------------------

103-65-1 propylbenzene

Oral	LD50	6040 mg/kg (rat)
------	------	------------------

98-82-8 cumene

Oral	LD50	1400 mg/kg (rat)
Dermal	LD50	12300 mg/kg (rabbit)
Inhalative	LC50/4 h	24.7 mg/l (mouse)

Primary irritant effect:

Skin corrosion/irritation

Causes skin irritation.

Serious eye damage/irritation

Based on available data, the classification criteria are not met.

Respiratory or skin sensitisation

Based on available data, the classification criteria are not met.

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Germ cell mutagenicity

Based on available data, the classification criteria are not met.

Carcinogenicity

Based on available data, the classification criteria are not met.

Reproductive toxicity

Suspected of damaging the unborn child.

STOT-single exposure

May cause drowsiness or dizziness.

(Contd. on page 9)

Trade name: HFA 2084

(Contd. of page 8)

- **STOT-repeated exposure**
May cause damage to organs through prolonged or repeated exposure.
- **Aspiration hazard**
May be fatal if swallowed and enters airways.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Harmful to fish
- **Additional ecological information:**
- **General notes:**
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
Harmful to aquatic organisms
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

SECTION 14: Transport information

- | | |
|---|---|
| <ul style="list-style-type: none"> · 14.1 UN-Number · ADR, IMDG, IATA | <p style="text-align: center;">UN1992</p> |
| <ul style="list-style-type: none"> · 14.2 UN proper shipping name · ADR | <p>2929 TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S. (TOLUENE, tricarbonyl(methylcyclopentadienyl)manganese), toxic by inhalation</p> |
| <ul style="list-style-type: none"> · IMDG, IATA | <p>FLAMMABLE LIQUID, TOXIC, N.O.S. (TOLUENE, tricarbonyl(methylcyclopentadienyl)manganese)</p> |

(Contd. on page 10)

Trade name: HFA 2084

(Contd. of page 9)

· **14.3 Transport hazard class(es)**

· **ADR**



· **Class**

3 Flammable liquids.

· **Label**

3+6.1

· **IMDG**



· **Class**

3 Flammable liquids.

· **Label**

3/6.1

· **IATA**



· **Class**

3 Flammable liquids.

· **Label**

3 (6.1)

· **14.4 Packing group**

· **ADR, IMDG, IATA**

II

· **14.5 Environmental hazards:**

Not applicable.

· **14.6 Special precautions for user**

Warning: Flammable liquids.

· **Danger code (Kemler):**

36

· **EMS Number:**

F-E,S-D

· **Stowage Category**

B

· **Stowage Code**

SW2 Clear of living quarters.

· **14.7 Transport in bulk according to Annex**

II of Marpol and the IBC Code

Not applicable.

· **Transport/Additional information:**

· **ADR**

· **Limited quantities (LQ)**

1L

· **Excepted quantities (EQ)**

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

· **Transport category**

2

· **Tunnel restriction code**

D/E

· **IMDG**

· **Limited quantities (LQ)**

100 ml

(Contd. on page 11)

Trade name: HFA 2084

(Contd. of page 10)

· Excepted quantities (EQ)

Code: E4

Maximum net quantity per inner packaging: 1 ml

Maximum net quantity per outer packaging: 500 ml

· UN "Model Regulation":

UN 2929 TOXIC LIQUID, FLAMMABLE, ORGANIC,
N . O . S . (T O L U E N E ,
TRICARBONYL (METHYLCYCLOPENTADIENYL)
MANGANESE), 6.1 (3), II

SECTION 15: Regulatory information

· 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

· Directive 2012/18/EU

· Named dangerous substances - ANNEX I None of the ingredients is listed.

· Qualifying quantity (tonnes) for the application of lower-tier requirements 5 t

· Qualifying quantity (tonnes) for the application of upper-tier requirements 20 t

· 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Relevant phrases

H225 Highly flammable liquid and vapour.

H226 Flammable liquid and vapour.

H228 Flammable solid.

H301 Toxic if swallowed.

H302 Harmful if swallowed.

H304 May be fatal if swallowed and enters airways.

H311 Toxic in contact with skin.

H312 Harmful in contact with skin.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H330 Fatal if inhaled.

H332 Harmful if inhaled.

H335 May cause respiratory irritation.

H336 May cause drowsiness or dizziness.

H361d Suspected of damaging the unborn child.

H373 May cause damage to organs through prolonged or repeated exposure.

H411 Toxic to aquatic life with long lasting effects.

R10 Flammable.

R11 Highly flammable.

R20 Harmful by inhalation.

R20/21 Harmful by inhalation and in contact with skin.

R22 Harmful if swallowed.

R24/25 Toxic in contact with skin and if swallowed.

R26 Very toxic by inhalation.

R36/37/38 Irritating to eyes, respiratory system and skin.

R37 Irritating to respiratory system.

R38 Irritating to skin.

R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.

R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R63 Possible risk of harm to the unborn child.

(Contd. on page 12)

Trade name: HFA 2084

(Contd. of page 11)

R65 Harmful: may cause lung damage if swallowed.
R67 Vapours may cause drowsiness and dizziness.

· **Department issuing SDS:** Product safety department

· **Contact:** Mr. G.C. Spruijt

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

SVHC: Substances of Very High Concern

Flam. Liq. 2: Flammable liquids – Category 2

Flam. Liq. 3: Flammable liquids – Category 3

Flam. Sol. 1: Flammable solids – Category 1

Acute Tox. 3: Acute toxicity – Category 3

Acute Tox. 1: Acute toxicity – Category 1

Acute Tox. 4: Acute toxicity – Category 4

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

Repr. 2: Reproductive toxicity – Category 2

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

Asp. Tox. 1: Aspiration hazard – Category 1

Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2

Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name: HFA 4032

1.2 Relevant identified uses of the substance or mixture and uses advised against

CFPP Improver for gasoil/diesel

Sector of Use SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites

Product category PC13 Fuels

Application of the substance / the mixture Additive

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

WRT B.V.

Strawinskylaan 3067

1077 ZX Amsterdam

Nederland

Tel.: +31 (0)20 644 2831

Fascimile: +31 (0)20 642 3962

Email: info@wrtbv.com

Further information obtainable from:

Product Safety Department

Tel.: 00-31-(0)-644 2831

info@wrtbv.com

Support is only given in the following languages: Dutch, English and German

1.4 Emergency telephone number:

Product Safety department

In case of a spill or accident, you can contact us at:

Tel.: 00-31-(0)20-644 2831

During office hours we can be contacted for general information at

Tel.: 00-31-(0)20-6442831

Support is only given in the following languages: Dutch, English, and German

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008



GHS02 flame

Flam. Liq. 3

H226 Flammable liquid and vapour.



GHS09 environment

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC

R10: Flammable.

Information concerning particular hazards for human and environment:

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

Classification system:

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

(Contd. on page 2)

Trade name: HFA 4032

(Contd. of page 1)

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the CLP regulation.

Hazard pictograms



GHS02 GHS09

Signal word Warning

Hazard statements

H226 Flammable liquid and vapour.

H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P103 Read label before use.

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P241 Use explosion-proof electrical/ventilating/lighting/equipment.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P240 Ground/bond container and receiving equipment.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.




vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

3.2 Chemical characterisation: Mixtures

Description: Mixture of substances listed below with nonhazardous additions.

Dangerous components:

CAS: 8008-20-6 EINECS: 232-366-4 Reg.nr.: 01-2119485517-27	Kerosine (petroleum)	 Xn R65  Flam. Liq. 3, H226;  Asp. Tox. 1, H304	40 - 50%
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Additional information: For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

After inhalation: Supply fresh air; consult doctor in case of complaints.

After skin contact: Generally the product does not irritate the skin.

After eye contact: Rinse opened eye for several minutes under running water.

After swallowing: If symptoms persist consult doctor.

4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

(Contd. on page 3)

Trade name: HFA 4032

(Contd. of page 2)

- **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:** CO₂, sand, extinguishing powder. Do not use water.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **5.2 Special hazards arising from the substance or mixture**
No further relevant information available.
- **5.3 Advice for firefighters**
- **Protective equipment:** No special measures required.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Ensure adequate ventilation.
Do not flush with water or aqueous cleansing agents
- **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
- **Information about fire - and explosion protection:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep container tightly sealed.
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.

(Contd. on page 4)

Trade name: HFA 4032

(Contd. of page 3)

8.1 Control parameters

Ingredients with limit values that require monitoring at the workplace:

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

Additional information: The lists valid during the making were used as basis.

8.2 Exposure controls

Personal protective equipment:

General protective and hygienic measures: Wash hands before breaks and at the end of work.

Respiratory protection:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection:



Tightly sealed goggles

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information

Appearance:

Form:	Liquid
Colour:	Whitish
Odour:	Aromatic
Odour threshold:	Not determined.

pH-value: Not applicable.

Change in condition

Boiling point/Boiling range:	180 °C
Pour point	minus 6 °C

Flash point: 55 °C

(Contd. on page 5)

Trade name: HFA 4032

(Contd. of page 4)

· Flammability (solid, gaseous):	Not applicable.
· Ignition temperature:	270 °C
· Decomposition temperature:	Not determined.
· Self-igniting:	Product is not selfigniting.
· Danger of explosion:	Not determined.
· Explosion limits:	
Lower:	0.6 Vol %
Upper:	6.0 Vol %
· Vapour pressure:	Not determined.
· Density at 15 °C:	0.89 - 0.92 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with water:	Not miscible or difficult to mix.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic at 20 °C:	29 mPas
Kinematic:	Not determined.
· 9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity** Based on available data, the classification criteria are not met.
- **Primary irritant effect:**
- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.

(Contd. on page 6)

Trade name: HFA 4032

(Contd. of page 5)

- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

SECTION 14: Transport information

- | | |
|---|--|
| <ul style="list-style-type: none"> · 14.1 UN-Number · ADR, IMDG, IATA | <p style="text-align: center;">UN1993</p> |
| <ul style="list-style-type: none"> · 14.2 UN proper shipping name · ADR · IMDG · IATA | <p>1993 FLAMMABLE LIQUID, N.O.S., solution</p> <p>FLAMMABLE LIQUID, N.O.S. (KEROSENE), MARINE POLLUTANT</p> <p>FLAMMABLE LIQUID, N.O.S. (KEROSENE)</p> |

(Contd. on page 7)

Trade name: HFA 4032

(Contd. of page 6)

14.3 Transport hazard class(es)

ADR, IMDG



Class 3 Flammable liquids.
Label 3

IATA



Class 3 Flammable liquids.
Label 3

14.4 Packing group

ADR, IMDG, IATA III

14.5 Environmental hazards:

Marine pollutant: No
Symbol (fish and tree)
Special marking (ADR): Symbol (fish and tree)

14.6 Special precautions for user

Danger code (Kemler): Warning: Flammable liquids.
30
EMS Number: F-E, S-E

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable.

Transport/Additional information:

ADR

Limited quantities (LQ) 5L
Excepted quantities (EQ) Code: E1
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 1000 ml
Transport category 3
Tunnel restriction code D/E

IMDG

Limited quantities (LQ) 5L
Excepted quantities (EQ) Code: E1
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 1000 ml

UN "Model Regulation":

UN1993, FLAMMABLE LIQUID, N.O.S., solution, 3, III

GB

(Contd. on page 8)



Safety data sheet according to 453/2010/EC

Printing date 07.07.2016

Version number 3

Revision: 07.07.2016

Trade name: HFA 4032

(Contd. of page 7)

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

No further relevant information available.

15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Relevant phrases

H226 Flammable liquid and vapour.

H304 May be fatal if swallowed and enters airways.

R65 Harmful: may cause lung damage if swallowed.

Department issuing SDS: Product safety department

Contact: Mr. G.C. Spruijt

Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

LC50: Lethal concentration, 50 percent

SVHC: Substances of Very High Concern

Flam. Liq. 3: Flammable liquids – Category 3

Asp. Tox. 1: Aspiration hazard – Category 1

Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2

GB

Safety data sheet according to 453/2010/EC

Printing date 07.07.2016

Version number 2

Revision: 07.07.2016

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name: HFA 6126M-10

1.2 Relevant identified uses of the substance or mixture and uses advised against
Mercaptan scavenger

Sector of Use SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites

Product category Fuels

Application of the substance / the mixture Additive

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

WRT B.V.

Strawinskylaan 3067

1077 ZX Amsterdam

Nederland

Tel.: +31 (0)20 644 2831

Fascimile: +31 (0)20 642 3962

Email: info@wrtbv.com

Further information obtainable from:

Product Safety Department

Tel.: 00-31-(0)-644 2831

info@wrtbv.com

Support is only given in the following languages: Dutch, English and German

1.4 Emergency telephone number:

Product Safety department

In case of a spill or accident, you can contact us at:

Tel.: 00-31-(0)20-644 2831

During office hours we can be contacted for general information at

Tel.: 00-31-(0)20-6442831

Support is only given in the following languages: Dutch, English, and German

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008



GHS02 flame

Flam. Liq. 2 H225 Highly flammable liquid and vapour.



GHS05 corrosion

Skin Corr. 1A H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the CLP regulation.

(Contd. on page 2)

GB

Trade name: HFA 6126M-10

(Contd. of page 1)

Hazard pictograms



GHS02 GHS05

Signal word Danger

Hazard-determining components of labelling:

sodium hydroxide

Hazard statements

H225 Highly flammable liquid and vapour.

H314 Causes severe skin burns and eye damage.

Precautionary statements

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P103 Read label before use.

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER/doctor.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

3.2 Chemical characterisation: Mixtures

Description: Solvent mixture with additives

Dangerous components:

CAS: 64-17-5 EINECS: 200-578-6 Reg.nr.: 01-2119457610-43	Denaturated bioethanol	Flam. Liq. 2, H225	60 - 95%
CAS: 1310-73-2 EINECS: 215-185-5 Reg.nr.: 01-2119457892-27	sodium hydroxide	Skin Corr. 1A, H314	5 - 15%

Additional information: For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information:

Take affected persons out of danger area and lay down.

Personal protection for the First Aider.

Immediately remove any clothing soiled by the product.

(Contd. on page 3)

Safety data sheet according to 453/2010/EC

Printing date 07.07.2016

Version number 2

Revision: 07.07.2016

Trade name: HFA 6126M-10

(Contd. of page 2)

- **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:**
Seek immediate medical advice.
Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:**
Seek immediate medical advice.
Rinse out mouth and then drink plenty of water.
Drink plenty of water and provide fresh air. Call for a doctor immediately.
- **4.2 Most important symptoms and effects, both acute and delayed** Disziness
- **4.3 Indication of any immediate medical attention and special treatment needed**
If swallowed, gastric irrigation.
Medical supervision for at least 48 hours.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:** Foam
- **5.2 Special hazards arising from the substance or mixture**
In case of fire, the following can be released:
Carbon dioxide (CO₂)
- **5.3 Advice for firefighters**
Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from the fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
- **Protective equipment:** Wear self-contained respiratory protective device.
- **Additional information** Cool endangered receptacles with water spray.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Keep people at a distance and stay on the windward side.
Keep away from ignition sources.
Use respiratory protective device against the effects of fumes/dust/aerosol.
Wear protective equipment. Keep unprotected persons away.
- **6.2 Environmental precautions:**
Do not allow to penetrate the ground/soil.
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**
Remove from the water surface (e.g. skim or suck off).
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Use neutralising agent.
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

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(Contd. on page 4)

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SECTION 7: Handling and storage

7.1 Precautions for safe handling

Use only in well ventilated areas.
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.

Information about fire - and explosion protection:

Fumes can combine with air to form an explosive mixture.
Danger of explosion if fluid enters the sewage system.
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.

7.2 Conditions for safe storage, including any incompatibilities

Storage:

Requirements to be met by storerooms and receptacles:

Provide solvent resistant, sealed floor.
Store in a cool location.

Information about storage in one common storage facility:

Store away from foodstuffs.
Store away from oxidising agents.

Further information about storage conditions:

When storing in tanks above 60 °C, cover with layer of nitrogen-protective gas.
Keep container tightly sealed.
Store in cool, dry conditions in well sealed receptacles.

7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

Additional information about design of technical facilities: No further data; see item 7.

8.1 Control parameters

Ingredients with limit values that require monitoring at the workplace:

64-17-5 Denaturated bioethanol

WEL Long-term value: 1920 mg/m³, 1000 ppm

1310-73-2 sodium hydroxide

WEL Short-term value: 2 mg/m³

Additional information: The lists valid during the making were used as basis.

8.2 Exposure controls

Personal protective equipment:

General protective and hygienic measures:

Do not eat, drink, smoke or sniff while working.
Do not carry product impregnated cleaning cloths in trouser pockets.
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.

Respiratory protection:

Short term filter device:
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

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Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves

Chloroprene rubber, CR

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material

The determined penetration times according to EN 374 part III are not performed under practical conditions. Therefore a maximum wearing time, which corresponds to 50% of the penetration time, is recommended.

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

For the permanent contact in work areas without heightened risk of injury (e.g. Laboratory) gloves made of the following material are suitable:

Neoprene gloves

For the permanent contact gloves made of the following materials are suitable:

Neoprene gloves

For the permanent contact of a maximum of 15 minutes gloves made of the following materials are suitable:

Neoprene gloves

As protection from splashes gloves made of the following materials are suitable:

Neoprene gloves

Eye protection:



Tightly sealed goggles

Body protection:

Solvent resistant protective clothing

Boots

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information

Appearance:

Form:

Liquid

Colour:

Dark blue

Odour:

Petroleum-like

Odour threshold:

Not determined.

pH-value:

Not applicable.

Change in condition

Melting point/Melting range:

-114.5 °C

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· Boiling point/Boiling range:	78 °C
· Pour point	< minus 33 °C
· Flash point:	13 °C
· Flammability (solid, gaseous):	Not applicable.
· Ignition temperature:	425 °C
· Decomposition temperature:	Not determined.
· Self-igniting:	Product is not selfigniting.
· Danger of explosion:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· Explosion limits:	
Lower:	3.5 Vol %
Upper:	15 Vol %
· Vapour pressure at 20 °C:	59 hPa
· Density at 15 °C:	0.95 - 0.99 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with water at 20 °C:	1 g/l
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic at 20 °C:	10.54 mm/s ² (ASTM D 445)
· 9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability** Stable under normal conditions
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions**
Reacts with acids, alkalis and oxidising agents.
Flammable.
Can form explosive mixtures in air if heated above flash point and/or when sprayed or atomised.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** Carbon dioxide

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Trade name: HFA 6126M-10

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SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity Based on available data, the classification criteria are not met.

LD/LC50 values relevant for classification:

1310-73-2 sodium hydroxide

Oral	LD50	2000 mg/kg (rat)
------	------	------------------

Primary irritant effect:

Skin corrosion/irritation

Causes severe skin burns and eye damage.

Serious eye damage/irritation

Causes serious eye damage.

Respiratory or skin sensitisation Based on available data, the classification criteria are not met.

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Germ cell mutagenicity Based on available data, the classification criteria are not met.

Carcinogenicity Based on available data, the classification criteria are not met.

Reproductive toxicity Based on available data, the classification criteria are not met.

STOT-single exposure Based on available data, the classification criteria are not met.

STOT-repeated exposure Based on available data, the classification criteria are not met.

Aspiration hazard Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity: No further relevant information available.

12.2 Persistence and degradability No further relevant information available.

12.3 Bioaccumulative potential No further relevant information available.

12.4 Mobility in soil No further relevant information available.

Additional ecological information:

General notes:

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Must not reach sewage water or drainage ditch undiluted or unneutralised.

12.5 Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

12.6 Other adverse effects No further relevant information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Recommendation

After prior treatment product has to be disposed of in an incinerator for hazardous waste adhering to the regulations pertaining to the disposal of particularly hazardous waste.

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

Uncleaned packaging:

Recommendation: Dispose of packaging according to regulations on the disposal of packagings.

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· **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

SECTION 14: Transport information

· **14.1 UN-Number**

· **ADR, IMDG, IATA**

UN2924

· **14.2 UN proper shipping name**

· **ADR**

2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S. (ETHANOL (ETHYL ALCOHOL), SODIUM HYDROXIDE)

· **IMDG**

FLAMMABLE LIQUID, CORROSIVE, N.O.S. (ETHANOL (ETHYL ALCOHOL), SODIUM HYDROXIDE)

· **IATA**

FLAMMABLE LIQUID, CORROSIVE, N.O.S. (ETHANOL, SODIUM HYDROXIDE)

· **14.3 Transport hazard class(es)**

· **ADR, IMDG, IATA**



· **Class**

3 Flammable liquids.

· **Label**

3+8

· **14.4 Packing group**

· **ADR, IMDG, IATA**

II

· **14.5 Environmental hazards:**

· **Marine pollutant:**

No

· **14.6 Special precautions for user**

Warning: Flammable liquids.

· **Danger code (Kemler):**

338

· **EMS Number:**

F-E,S-C

· **Segregation groups**

Alkalis

· **14.7 Transport in bulk according to Annex**

II of Marpol and the IBC Code

Not applicable.

· **Transport/Additional information:**

· **ADR**

· **Limited quantities (LQ)**

1L

· **Transport category**

2

· **Tunnel restriction code**

D/E

· **UN "Model Regulation":**

UN2924, FLAMMABLE LIQUID, CORROSIVE, N.O.S. (ETHANOL (ETHYL ALCOHOL), SODIUM HYDROXIDE), 3 (8), II

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SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

No further relevant information available.

15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Relevant phrases

H225 Highly flammable liquid and vapour.

H314 Causes severe skin burns and eye damage.

Department issuing SDS: Product safety department

Contact: Mr. G.C. Spruijt

Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

SVHC: Substances of Very High Concern

Flam. Liq. 2: Flammable liquids – Category 2

Skin Corr. 1A: Skin corrosion/irritation – Category 1A

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name: HFA 6151

1.2 Relevant identified uses of the substance or mixture and uses advised against
Mercaptan scavenger

Sector of Use SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites

Product category Fuels

Application of the substance / the mixture Additive

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

WRT B.V.

Strawinskylaan 3067

1077 ZX Amsterdam

Nederland

Tel.: +31 (0)20 644 2831

Fascimile: +31 (0)20 642 3962

Email: info@wrtbv.com

Further information obtainable from:

Product Safety Department

Tel.: 00-31-(0)-644 2831

info@wrtbv.com

Support is only given in the following languages: Dutch, English and German

1.4 Emergency telephone number:

Product Safety department

In case of a spill or accident, you can contact us at:

Tel.: 00-31-(0)20-644 2831

During office hours we can be contacted for general information at

Tel.: 00-31-(0)20-6442831

Support is only given in the following languages: Dutch, English, and German

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008



GHS02 flame

Flam. Liq. 2 H225 Highly flammable liquid and vapour.



GHS05 corrosion

Skin Corr. 1A H314 Causes severe skin burns and eye damage.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC



C; Corrosive

R35: Causes severe burns.



F; Highly flammable

R11: Highly flammable.

(Contd. on page 2)

Trade name: HFA 6151

(Contd. of page 1)

Information concerning particular hazards for human and environment:

Has a narcotising effect.

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

Classification system:

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the CLP regulation.

Hazard pictograms



GHS02 GHS05

Signal word Danger

Hazard statements

H225 Highly flammable liquid and vapour.

H314 Causes severe skin burns and eye damage.

Precautionary statements

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P103 Read label before use.

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER/doctor.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.





vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

3.2 Chemical characterisation: Mixtures

Description: Mixture: consisting of the following components.

Dangerous components:

CAS: 64-17-5 EINECS: 200-578-6 Reg.nr.: 01-2119457610-43	Denaturated bioethanol	 F R11  Flam. Liq. 2, H225	93 - 97%
CAS: 1310-73-2 EINECS: 215-185-5 Reg.nr.: 01-2119457892-27	sodium hydroxide	 C R35  Skin Corr. 1A, H314	3 - 5%
CAS: 3317-67-7 EINECS: 222-012-7	Cobalt		< 0.1%

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Trade name: HFA 6151

(Contd. of page 2)

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

· **4.1 Description of first aid measures**

· **General information:**

Take affected persons out of danger area and lay down.

Personal protection for the First Aider.

Immediately remove any clothing soiled by the product.

· **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.

· **After skin contact:** Immediately wash with water and soap and rinse thoroughly.

· **After eye contact:**

Seek immediate medical advice.

Rinse opened eye for several minutes under running water. Then consult a doctor.

· **After swallowing:**

Seek immediate medical advice.

Rinse out mouth and then drink plenty of water.

Drink plenty of water and provide fresh air. Call for a doctor immediately.

· **4.2 Most important symptoms and effects, both acute and delayed** Disziness

· **4.3 Indication of any immediate medical attention and special treatment needed**

If swallowed, gastric irrigation.

Medical supervision for at least 48 hours.

SECTION 5: Firefighting measures

· **5.1 Extinguishing media**

· **Suitable extinguishing agents:**

Foam

CO₂, sand, extinguishing powder. Do not use water.

· **For safety reasons unsuitable extinguishing agents:** Water with full jet

· **5.2 Special hazards arising from the substance or mixture**

In case of fire, the following can be released:

Carbon dioxide (CO₂)

· **5.3 Advice for firefighters**

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from the fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

· **Protective equipment:** Wear self-contained respiratory protective device.

· **Additional information** Cool endangered receptacles with water spray.

SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**

Keep people at a distance and stay on the windward side.

Keep away from ignition sources.

Use respiratory protective device against the effects of fumes/dust/aerosol.

Wear protective equipment. Keep unprotected persons away.

· **6.2 Environmental precautions:**

Do not allow to penetrate the ground/soil.

Prevent seepage into sewage system, workpits and cellars.

· **6.3 Methods and material for containment and cleaning up:**

Remove from the water surface (e.g. skim or suck off).

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Trade name: HFA 6151

(Contd. of page 3)

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Use neutralising agent.

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Do not flush with water or aqueous cleansing agents

6.4 Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

Information about fire - and explosion protection:

Danger of explosion if fluid enters the sewage system.

Fumes can combine with air to form an explosive mixture.

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

7.2 Conditions for safe storage, including any incompatibilities

Storage:

Requirements to be met by storerooms and receptacles:

Provide solvent resistant, sealed floor.

Store in a cool location.

Information about storage in one common storage facility:

Store away from foodstuffs.

Store away from oxidising agents.

Further information about storage conditions:

When storing in tanks above 60 °C, cover with layer of nitrogen-protective gas.

Keep container tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

Additional information about design of technical facilities: No further data; see item 7.

8.1 Control parameters

Ingredients with limit values that require monitoring at the workplace:

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

Additional information: The lists valid during the making were used as basis.

8.2 Exposure controls

Personal protective equipment:

General protective and hygienic measures:

Do not eat, drink, smoke or sniff while working.

Do not carry product impregnated cleaning cloths in trouser pockets.

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

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Trade name: HFA 6151

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· **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

Chloroprene rubber, CR

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The determined penetration times according to EN 374 part III are not performed under practical conditions. Therefore a maximum wearing time, which corresponds to 50% of the penetration time, is recommended.

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **For the permanent contact in work areas without heightened risk of injury (e.g. Laboratory) gloves made of the following material are suitable:**

Neoprene gloves

· **For the permanent contact gloves made of the following materials are suitable:**

Neoprene gloves

· **For the permanent contact of a maximum of 15 minutes gloves made of the following materials are suitable:**

Neoprene gloves

· **As protection from splashes gloves made of the following materials are suitable:**

Neoprene gloves

· **Eye protection:**



Tightly sealed goggles

· **Body protection:**

Solvent resistant protective clothing

Boots

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form:

Liquid

Colour:

Dark blue

· **Odour:**

Petroleum hydrocarbon odour

· **Odour threshold:**

Not determined.

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Trade name: HFA 6151

(Contd. of page 5)

· pH-value:	Not determined.
· Change in condition	
Boiling point/Boiling range:	Undetermined.
· Pour point	< minus 33 °C
· Flash point:	14 °C
· Flammability (solid, gaseous):	Not applicable.
· Ignition temperature:	
Decomposition temperature:	Not applicable
· Self-igniting:	Product is not selfigniting.
· Danger of explosion:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
· Vapour pressure:	Not determined.
· Density at 20 °C:	0.83 - 0.86 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with water:	Not miscible or difficult to mix.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic at 20 °C:	2 mm ² /s
· 9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability** Stable under normal conditions
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions**
Reacts with acids, alkalis and oxidising agents.
Flammable.
Can form explosive mixtures in air if heated above flash point and/or when sprayed or atomised.
- **10.4 Conditions to avoid**
High temperature
Sources of ignition
Avoid the build-up of electrostatic charge
- **10.5 Incompatible materials:**
-acids
-alkalis

(Contd. on page 7)

Trade name: HFA 6151

(Contd. of page 6)

- oxidizing materials
- reducing materials

· **10.6 Hazardous decomposition products:** Carbon dioxide

SECTION 11: Toxicological information

· **11.1 Information on toxicological effects**

- **Acute toxicity** Based on available data, the classification criteria are not met.
- **Primary irritant effect:**
- **Skin corrosion/irritation**
Causes severe skin burns and eye damage.
- **Serious eye damage/irritation**
Causes severe skin burns and eye damage.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:** Must not reach sewage water or drainage ditch undiluted or unneutralised.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
After prior treatment product has to be disposed of in an incinerator for hazardous waste adhering to the regulations pertaining to the disposal of particularly hazardous waste.
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:** Dispose of packaging according to regulations on the disposal of packagings.



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Trade name: HFA 6151

(Contd. of page 7)

SECTION 14: Transport information

· 14.1 UN-Number	
· ADR, IMDG, IATA	UN2924
· 14.2 UN proper shipping name	
· ADR	2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S. (ETHANOL (ETHYL ALCOHOL), SODIUM HYDROXIDE)
· IMDG	FLAMMABLE LIQUID, CORROSIVE, N.O.S. (ETHANOL (ETHYL ALCOHOL), SODIUM HYDROXIDE)
· IATA	FLAMMABLE LIQUID, CORROSIVE, N.O.S. (ETHANOL, SODIUM HYDROXIDE)
· 14.3 Transport hazard class(es)	
· ADR, IMDG, IATA	
	 
· Class	3 Flammable liquids.
· Label	3+8
· 14.4 Packing group	
· ADR, IMDG, IATA	II
· 14.5 Environmental hazards:	
· Marine pollutant:	No
· 14.6 Special precautions for user	Warning: Flammable liquids.
· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	1L
· UN "Model Regulation":	UN2924, FLAMMABLE LIQUID, CORROSIVE, N.O.S., (ETHANOL (ETHYL ALCOHOL), SODIUM HYDROXIDE), 3 (8), II

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
No further relevant information available.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

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Safety data sheet

according to 453/2010/EC

Printing date 07.07.2016

Version number 5

Revision: 07.07.2016

Trade name: HFA 6151

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Relevant phrases

H225 Highly flammable liquid and vapour.

H314 Causes severe skin burns and eye damage.

R11 Highly flammable.

R35 Causes severe burns.

Department issuing SDS: Product safety department

Contact: Mr. G.C. Spruijt

Abbreviations and acronyms:

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

LC50: Lethal concentration, 50 percent

SVHC: Substances of Very High Concern

Flam. Liq. 2: Flammable liquids – Category 2

Skin Corr. 1A: Skin corrosion/irritation – Category 1A

GB

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name: *HFA 8087*

1.2 Relevant identified uses of the substance or mixture and uses advised against

Anti-oxidant

Sector of Use

SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites

Oil Industry

Product category *PC13 Fuels*

Application of the substance / the mixture

Additive

Anti-oxidant

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

WRT B.V.

Strawinskylaan 3067

1077ZX Amsterdam

The Netherlands

Tel.: 00-31-(0)20-644 2831

Fax.: 00-31-(0)20-642 3962

info@wrtbv.com

Further information obtainable from:

Product Safety Department

Tel.: 00-31-(0)-644 2831

info@wrtbv.com

Support is only given in the following languages: Dutch, English and German

1.4 Emergency telephone number:

Product Safety department

In case of a spill or accident, you can contact us at:

Tel.: 00-31-(0)20-644 2831

During office hours we can be contacted for general information at

Tel.: 00-31-(0)20-6442831

Support is only given in the following languages: Dutch, English, and German

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008



GHS08 health hazard

Muta. 2

H341

Suspected of causing genetic defects.

Asp. Tox. 1

H304

May be fatal if swallowed and enters airways.



GHS09 environment

Aquatic Acute 1

H400

Very toxic to aquatic life.

Aquatic Chronic 1

H410

Very toxic to aquatic life with long lasting effects.



GHS07

Trade name: HFA 8087

(Contd. of page 1)

Skin Irrit. 2 H315 Causes skin irritation.
Eye Irrit. 2 H319 Causes serious eye irritation.
STOT SE 3 H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC



Xn; Harmful

R68-65: Possible risk of irreversible effects. Harmful: may cause lung damage if swallowed.



Xi; Irritant

R36/37/38: Irritating to eyes, respiratory system and skin.



N; Dangerous for the environment

R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Information concerning particular hazards for human and environment:

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

Classification system:

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the CLP regulation.

Hazard pictograms



GHS07



GHS08



GHS09

Signal word Danger

Hazard-determining components of labelling:

Hydrocarbons, C9, Aromatics
phenol

Hazard statements

H315 Causes skin irritation.
H319 Causes serious eye irritation.
H341 Suspected of causing genetic defects.
H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.
H304 May be fatal if swallowed and enters airways.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements

P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P103 Read label before use.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P321 Specific treatment (see on this label).
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

(Contd. on page 3)

Trade name: HFA 8087

(Contd. of page 2)

- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

· **3.2 Chemical characterisation: Mixtures**

· **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**

CAS: 128-39-2 EINECS: 204-884-0 Reg.nr.: 01-2119490822-33	2,6-di-tert-butylphenol ❌ Xi R38; ⚠ N R50/53 ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ⚠ Skin Irrit. 2, H315	40 - 60%
CAS: 732-26-3 EINECS: 211-989-5 Reg.nr.: 01-2120080556-51	2,4,6-tri-tert-butylphenol ❌ Xn R22 ⚠ Acute Tox. 4, H302	5 - 7.5%
CAS: 88-18-6 EINECS: 201-807-2 Reg.nr.: 01-2119971072-42	2-tert-butylphenol ❌ Xi R36/37/38 ⚠ Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	1 - 5%
CAS: 96-76-4 EINECS: 202-532-0 Reg.nr.: 01-2119486980-25	2,4-di-tert-butylphenol ❌ Xn R22 ⚠ Acute Tox. 4, H302	1 - 2.5%

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

· **4.1 Description of first aid measures**

· **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.

· **After skin contact:**

Remove contaminated clothing as soon as possible; this will be a fire hazard. Wash exposed skin thoroughly with soap and water. If irritation persists, consult a physician. Launder contaminated clothing before re-use. Badly contaminated leather shoes or clothing be discarded.

· **After eye contact:**

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
Check for and remove any contact lenses

· **After swallowing:** If symptoms persist consult doctor.

· **4.2 Most important symptoms and effects, both acute and delayed**

No further relevant information available.

· **4.3 Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

SECTION 5: Firefighting measures

· **5.1 Extinguishing media**

· **Suitable extinguishing agents:**

CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· **For safety reasons unsuitable extinguishing agents:** Water with full jet

· **5.2 Special hazards arising from the substance or mixture**

In case of fire, the following can be released:

Nitrogen oxides (NO_x)

(Contd. on page 4)

Trade name: HFA 8087

(Contd. of page 3)

Carbon monoxide (CO)

· **5.3 Advice for firefighters**

· **Protective equipment:**

Wear impervious clothing and self contained breathing apparatus. Use water to keep fire-exposed containers cool. If a leak or spill has not ignited use water spray to disperse the vapours and to provide protection for personnel attempting to stop a leak. Take care not to spread the fire with water. Contain fire-fighting water to prevent ingress to watercourses as it will cause oil pollution.

SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

· **6.2 Environmental precautions:**

Do not allow product to reach sewage system or any water course.

Inform respective authorities in case of seepage into water course or sewage system.

· **6.3 Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Do not flush with water or aqueous cleansing agents

· **6.4 Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

· **Information about fire - and explosion protection:**

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

· **7.2 Conditions for safe storage, including any incompatibilities**

· **Storage:**

· **Requirements to be met by storerooms and receptacles:** No special requirements.

· **Information about storage in one common storage facility:** Not required.

· **Further information about storage conditions:** Keep container tightly sealed.

· **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· **Additional information about design of technical facilities:** No further data; see item 7.

· **8.1 Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

108-95-2 phenol

WEL Short-term value: 16 mg/m³, 4 ppm

Long-term value: 7.8 mg/m³, 2 ppm

Sk

(Contd. on page 5)

Trade name: HFA 8087

(Contd. of page 4)

· **Additional information:** The lists valid during the making were used as basis.

· **8.2 Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

· **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form:	Liquid
Colour:	Light yellow
Odour:	Aromatic
Odour threshold:	Not determined.

· **pH-value:** Not determined.

· **Change in condition**

Boiling point/Boiling range: Undetermined.

· **Pour point** < minus 33 °C

· **Flash point:** 66 °C

(Contd. on page 6)

Trade name: HFA 8087

(Contd. of page 5)

· Flammability (solid, gaseous):	Not applicable.
· Ignition temperature:	450 °C
· Decomposition temperature:	Not determined.
· Self-igniting:	Product is not selfigniting.
· Danger of explosion:	Product does not present an explosion hazard.
· Explosion limits:	
Lower:	0.7 Vol %
Upper:	7.5 Vol %
· Vapour pressure at 20 °C:	5 hPa
· Density at 15 °C:	0.91 - 0.94 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with water:	Not miscible or difficult to mix.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic at 20 °C:	3 mm ² /s
· 9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid**
High temperature
Sources of ignition
Avoid the build-up of electrostatic charge
- **10.5 Incompatible materials:** Strong oxidizing agents
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity** Based on available data, the classification criteria are not met.

LD/LC50 values relevant for classification:		
64742-95-6 Solvent naphtha (petroleum), light arom.		
Oral	LD50	>6800 mg/kg (rat)

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Trade name: HFA 8087

(Contd. of page 6)

Dermal	LD50	>3400 mg/kg (rab)
Inhalative	LC50/4 h	>10.2 mg/l (rat)
108-95-2 phenol		
Oral	LD50	317 mg/kg (rat)
Dermal	LD50	850 mg/kg (rabbit)

- **Primary irritant effect:**
- **Skin corrosion/irritation**
Causes skin irritation.
- **Serious eye damage/irritation**
Causes serious eye irritation.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity**
Suspected of causing genetic defects.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure**
May cause respiratory irritation. May cause drowsiness or dizziness.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard**
May be fatal if swallowed and enters airways.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Toxic for fish
- **Additional ecological information:**
- **General notes:**
Also poisonous for fish and plankton in water bodies.
Toxic for aquatic organisms
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
The generation of waste should be avoided or minimised wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container

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Trade name: HFA 8087

(Contd. of page 7)

must be disposed of in safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of split material and runoff and contact with soil, waterways, drains and sewers.

Uncleaned packaging:
Recommendation:

Disposal must be made according to official regulations.

This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have been cleaned or rinsed out. Emptied containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of split material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

14.1 UN-Number
ADR, IMDG, IATA

UN3082

14.2 UN proper shipping name
ADR

3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (2,6-di-tert-butylphenol, 2,4-di-tert-butylphenol)

IMDG

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (2,6-di-tert-butylphenol, 2,4-di-tert-butylphenol), MARINE POLLUTANT

IATA

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (2,6-di-tert-butylphenol, 2,4-di-tert-butylphenol)

14.3 Transport hazard class(es)
ADR, IMDG, IATA

Class

9 Miscellaneous dangerous substances and articles.

Label

9

14.4 Packing group
ADR, IMDG, IATA

III

14.5 Environmental hazards:

Product contains environmentally hazardous substances: Solvent naphtha (petroleum), light arom.

Marine pollutant:

Yes

Symbol (fish and tree)

Special marking (ADR):

Symbol (fish and tree)

Special marking (IATA):

Symbol (fish and tree)

14.6 Special precautions for user

Warning: Miscellaneous dangerous substances and articles.

Danger code (Kemler):

90

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Trade name: HFA 8087

(Contd. of page 8)

· EMS Number:	F-A,S-B
· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	5L
· Transport category	3
· Tunnel restriction code	E
· UN "Model Regulation":	UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (2,6-di-tert-butylphenol, 2,4-di-tert-butylphenol), 9, III

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 100 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 200 t
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant phrases**
 - H302 Harmful if swallowed.
 - H315 Causes skin irritation.
 - H319 Causes serious eye irritation.
 - H335 May cause respiratory irritation.
 - H400 Very toxic to aquatic life.
 - H410 Very toxic to aquatic life with long lasting effects.
- **Relevant hazard statements**
 - R22 Harmful if swallowed.
 - R36/37/38 Irritating to eyes, respiratory system and skin.
 - R38 Irritating to skin.
 - R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- **Department issuing SDS:** Product safety department
- **Contact:** Mr. G.C. Spruijt
- **Abbreviations and acronyms:**
 - ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
 - IMDG: International Maritime Code for Dangerous Goods
 - IATA: International Air Transport Association
 - GHS: Globally Harmonised System of Classification and Labelling of Chemicals
 - EINECS: European Inventory of Existing Commercial Chemical Substances
 - ELINCS: European List of Notified Chemical Substances
 - CAS: Chemical Abstracts Service (division of the American Chemical Society)
 - LC50: Lethal concentration, 50 percent
 - LD50: Lethal dose, 50 percent
 - PBT: Persistent, Bioaccumulative and Toxic
 - vPvB: very Persistent and very Bioaccumulative
 - SVHC: Substances of Very High Concern

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Safety data sheet
according to 453/2010/EC

Printing date 17.06.2016

Version number 3

Revision: 17.06.2016

Trade name: HFA 8087

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Acute Tox. 4: Acute toxicity – Category 4
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
Muta. 2: Germ cell mutagenicity – Category 2
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
Asp. Tox. 1: Aspiration hazard – Category 1
Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1
· *** Data compared to the previous version altered. New format**

GB

SECTION 1: Identification of the substance/mixture and of the company/undertaking

- **1.1 Product identifier**
- **Trade name: HFA 4068**
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
CFPP Improver for gasoil/diesel
- **Sector of Use** SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites
- **Product category** PC13 Fuels
- **Application of the substance / the mixture** Additive
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
WRT B.V.
Strawinskylaan 3067
1077ZX Amsterdam
The Netherlands
Tel.: 00-31-(0)20-644 2831
Fax.: 00-31-(0)20-642 3962
info@wrtbv.com
- **Further information obtainable from:**
Product Safety Department
Tel.: 00-31-(0)-644 2831
info@wrtbv.com
Support is only given in the following languages: Dutch, English and German
- **1.4 Emergency telephone number:**
Product Safety department
In case of a spill or accident, you can contact us at:
Tel.: 00-31-(0)20-644 2831
During office hours we can be contacted for general information at
Tel.: 00-31-(0)20-6442831
Support is only given in the following languages: Dutch, English, and German

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS02 flame

Flam. Liq. 3 H226 Flammable liquid and vapour.



GHS08 health hazard

Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



Xn; Harmful

R40: Limited evidence of a carcinogenic effect.



Xi; Irritant

R36/37/38: Irritating to eyes, respiratory system and skin.



N; Dangerous for the environment

R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

(Contd. on page 2)

GB

Trade name: HFA 4068

(Contd. of page 1)

R10-66-67: Flammable. Repeated exposure may cause skin dryness or cracking. Vapours may cause drowsiness and dizziness.

· **Information concerning particular hazards for human and environment:**

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

At long or repeated contact with skin it may cause dermatitis due to the degreasing effect of the solvent.

· **Classification system:**

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

· **2.2 Label elements**

· **Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the CLP regulation.

· **Hazard pictograms**



GHS02 GHS08

· **Signal word** *Danger*

· **Hazard-determining components of labelling:**

Kerosine (petroleum), hydrodesulfurized

· **Hazard statements**

H226 Flammable liquid and vapour.

H304 May be fatal if swallowed and enters airways.

· **Precautionary statements**

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P103 Read label before use.

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P241 Use explosion-proof electrical/ventilating/lighting/equipment.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Additional information:**

EUH066 Repeated exposure may cause skin dryness or cracking.

· **2.3 Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.



· **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

· **3.2 Chemical characterisation: Mixtures**

· **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**

CAS: 64742-81-0 EINECS: 265-184-9 Reg.nr.: 01-2119462828-25	Kerosine (petroleum), hydrodesulfurized	 Xn R65  Asp. Tox. 1, H304	40 - 65%
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(Contd. on page 3)

GB

Trade name: HFA 4068

(Contd. of page 2)

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

· **4.1 Description of first aid measures**

- **General information:** Take affected persons out into the fresh air.
- **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** If symptoms persist consult doctor.

· **4.2 Most important symptoms and effects, both acute and delayed**

No further relevant information available.

· **4.3 Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

SECTION 5: Firefighting measures

· **5.1 Extinguishing media**

· **Suitable extinguishing agents:**

CO₂, powder or water spray. Fight larger fire with alcohol resistant foam.

· **For safety reasons unsuitable extinguishing agents:** Water with full jet

· **5.2 Special hazards arising from the substance or mixture**

In case of fire, the following can be released:

Carbon monoxide (CO)

Carbon dioxide (CO₂)

· **5.3 Advice for firefighters**

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from the fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

· **Protective equipment:**

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

· **6.2 Environmental precautions:**

Inform respective authorities in case of seepage into water course or sewage system.

Do not allow to enter sewers/ surface or ground water.

· **6.3 Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Do not flush with water or aqueous cleansing agents

· **6.4 Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

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Trade name: HFA 4068

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SECTION 7: Handling and storage

7.1 Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.

Information about fire - and explosion protection:

Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.

7.2 Conditions for safe storage, including any incompatibilities

Storage:

Requirements to be met by storerooms and receptacles:

Store only in the original receptacle.

Information about storage in one common storage facility: Store away from foodstuffs.

Further information about storage conditions: Keep container tightly sealed.

7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

Additional information about design of technical facilities: No further data; see item 7.

8.1 Control parameters

Ingredients with limit values that require monitoring at the workplace:

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

Additional information: The lists valid during the making were used as basis.

8.2 Exposure controls

Personal protective equipment:

General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.

Respiratory protection:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

For the permanent contact gloves made of the following materials are suitable:

Fluorocarbon rubber (Viton)

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Nitrile rubber, NBR

· **Eye protection:**



Tightly sealed goggles

· **Body protection:** Use protective suit.

SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· General Information

· Appearance:

Form:	Liquid
Colour:	Whitish
Odour:	Aromatic
Odour threshold:	Not determined.

· **pH-value:** Not applicable.

· Change in condition

Boiling point/Boiling range:	180 °C
Pour point	-6 °C

· **Flash point:** 45 °C

· **Flammability (solid, gaseous):** Not applicable.

· **Ignition temperature:** 270 °C

· **Decomposition temperature:** Not applicable

· **Self-igniting:** Product is not selfigniting.

· **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

· Explosion limits:

Lower:	0.6 Vol %
Upper:	6.0 Vol %

· **Vapour pressure:** Not determined.

· **Density at 15 °C:** 0.90 - 0.91 g/cm³

· **Relative density** Not determined.

· **Vapour density** Not determined.

· **Evaporation rate** Not determined.

· **Solubility in / Miscibility with water:**

Not miscible or difficult to mix.

· **Partition coefficient (n-octanol/water):** Not determined.

· Viscosity:

Dynamic at 20 °C:	33 mPas
Kinematic:	Not determined.

· 9.2 Other information

No further relevant information available.

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Safety data sheet according to 453/2010/EC

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SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid**
Do not get in eyes, on skin, or on clothing
High temperature
Sources of ignition
Avoid the build-up of electrostatic charge
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity** Based on available data, the classification criteria are not met.
- **Primary irritant effect:**
- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard**
May be fatal if swallowed and enters airways.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Toxic for fish
- **Additional ecological information:**
- **General notes:**
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Also poisonous for fish and plankton in water bodies.
Toxic for aquatic organisms
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

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- **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

SECTION 14: Transport information

- | | |
|--|---|
| 14.1 UN-Number | UN1993 |
| ADR, IMDG, IATA | |
| 14.2 UN proper shipping name | |
| ADR | 1993 FLAMMABLE LIQUID, N.O.S. (KEROSENE), solution |
| IMDG | FLAMMABLE LIQUID, N.O.S. (KEROSENE), MARINE POLLUTANT |
| IATA | FLAMMABLE LIQUID, N.O.S. (KEROSENE) |
| 14.3 Transport hazard class(es) | |
| ADR, IMDG | |
| |   |
| Class | 3 Flammable liquids. |
| Label | 3 |
| IATA | |
| |  |
| Class | 3 Flammable liquids. |
| Label | 3 |
| 14.4 Packing group | |
| ADR, IMDG, IATA | III |
| 14.5 Environmental hazards: | |
| Marine pollutant: | Yes
Symbol (fish and tree) |
| Special marking (ADR): | Symbol (fish and tree) |
| 14.6 Special precautions for user | Warning: Flammable liquids. |
| Danger code (Kemler): | 30 |
| EMS Number: | F-E,S-E |
| 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code | Not applicable. |

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Trade name: HFA 4068

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· **Transport/Additional information:**

· **ADR**

· **Limited quantities (LQ)**

5L

· **Transport category**

3

· **Tunnel restriction code**

D/E

· **UN "Model Regulation":**

UN1993, FLAMMABLE LIQUID, N.O.S. (KEROSENE),
solution, 3, III

SECTION 15: Regulatory information

· **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

· **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3

· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant phrases**

H304 May be fatal if swallowed and enters airways.

R65 Harmful: may cause lung damage if swallowed.

· **Department issuing SDS:** Product safety department

· **Contact:** Mr. G.C. Spruijt

· **Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 3: Flammable liquids – Category 3

Asp. Tox. 1: Aspiration hazard – Category 1

· *** Data compared to the previous version altered.** Section 14: amendment ADR phrase

GB

SECTION 1: Identification of the substance/mixture and of the company/undertaking

- **1.1 Product identifier**
- **Trade name: Infineum R408 - Diluted**
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
CFPP Improver for gasoil/diesel
- **Sector of Use** SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites
- **Product category** PC13 Fuels
- **Application of the substance / the mixture** Additive
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
WRT B.V.
Strawinskylaan 3067
1077ZX Amsterdam
The Netherlands
Tel.: 00-31-(0)20-644 2831
Fax.: 00-31-(0)20-642 3962
info@wrtbv.com
- **Further information obtainable from:**
Product Safety Department
Tel.: 00-31-(0)-644 2831
info@wrtbv.com
Support is only given in the following languages: Dutch, English and German
- **1.4 Emergency telephone number:**
Product Safety department
In case of a spill or accident, you can contact us at:
Tel.: 00-31-(0)20-644 2831
During office hours we can be contacted for general information at
Tel.: 00-31-(0)20-6442831
Support is only given in the following languages: Dutch, English, and German

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS02 flame

Flam. Liq. 3 H226 Flammable liquid and vapour.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



Xn; Harmful

R65: Harmful: may cause lung damage if swallowed.



N; Dangerous for the environment

R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R10-66-67: Flammable. Repeated exposure may cause skin dryness or cracking. Vapours may cause drowsiness and dizziness.

- **Information concerning particular hazards for human and environment:**
The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.
At long or repeated contact with skin it may cause dermatitis due to the degreasing effect of the solvent.
- **Classification system:**
The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

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Trade name: Infineum R408 - Diluted

(Contd. of page 1)

2.2 Label elements
Labelling according to EU guidelines:

The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials.

Code letter and hazard designation of product:


Xn Harmful
N Dangerous for the environment

Risk phrases:

- 10 Flammable.
- 51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- 65 Harmful: may cause lung damage if swallowed.
- 66 Repeated exposure may cause skin dryness or cracking.
- 67 Vapours may cause drowsiness and dizziness.

Safety phrases:

- 2 Keep out of the reach of children.
- 23 Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).
- 46 If swallowed, seek medical advice immediately and show this container or label.
- 56 Dispose of this material and its container to hazardous or special waste collection point.

2.3 Other hazards
Results of PBT and vPvB assessment



- PBT:** Not applicable.
- vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

3.2 Chemical characterisation: Mixtures

Description: Mixture of substances listed below with nonhazardous additions.

Dangerous components:

CAS: 64742-94-5 EC number: 919-284-0 Reg.nr.: 01-2119463583-34	Solvent naphtha (petroleum), heavy arom.	 Xn R65  Asp. Tox. 1, H304	65 - 70%
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Additional information: For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

- After inhalation:** Supply fresh air; consult doctor in case of complaints.
- After skin contact:** Generally the product does not irritate the skin.
- After eye contact:** Rinse opened eye for several minutes under running water.
- After swallowing:** If symptoms persist consult doctor.

4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

GB

(Contd. on page 3)

Trade name: Infineum R408 - Diluted

(Contd. of page 2)

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:** CO₂, sand, extinguishing powder. Do not use water.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **5.2 Special hazards arising from the substance or mixture**
No further relevant information available.
- **5.3 Advice for firefighters**
- **Protective equipment:**
Wear fully protective suit.
Wear self-contained respiratory protective device.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **6.2 Environmental precautions:**
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
Do not flush with water or aqueous cleansing agents
- **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
- **Information about fire - and explosion protection:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep container tightly sealed.
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **8.1 Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists valid during the making were used as basis.

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Trade name: Infineum R408 - Diluted

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· **8.2 Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.
Wash hands before breaks and at the end of work.

· **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form:	Liquid
Colour:	Transparent
Odour:	Aromatic
Odour threshold:	Not determined.

· **pH-value:** Not determined.

· **Change in condition**

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	Undetermined.
Pour point	minus 12 °C

· **Flash point:** 49 °C

· **Flammability (solid, gaseous):** Not applicable.

· **Ignition temperature:**

Decomposition temperature: Not determined.

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Trade name: Infineum R408 - Diluted

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· Self-igniting:	Product is not selfigniting.
· Danger of explosion:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
· Vapour pressure:	Not determined.
· Density at 20 °C:	0.9283 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with water:	Not miscible or difficult to mix.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic at 20 °C:	159 mm ² /s
· Solvent content:	
Organic solvents:	0.0 %
· 9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid**
High temperature
Sources of ignition
Avoid the build-up of electrostatic charge
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity** Based on available data, the classification criteria are not met.
- **Primary irritant effect:**
- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.

(Contd. on page 6)

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Trade name: Infineum R408 - Diluted

(Contd. of page 5)

- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Toxic for fish
- **Additional ecological information:**
- **General notes:**
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
Toxic for aquatic organisms
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
The generation of waste should be avoided or minimised wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of split material and runoff and contact with soil, waterways, drains and sewers.
- **Uncleaned packaging:**
- **Recommendation:**
Disposal must be made according to official regulations.
This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have been cleaned or rinsed out. Emptied containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of split material and runoff and contact with soil, waterways, drains and sewers.


GB

(Contd. on page 7)

Trade name: Infineum R408 - Diluted

(Contd. of page 6)

SECTION 14: Transport information

· 14.1 UN-Number	
· ADR, IMDG, IATA	UN1993
· 14.2 UN proper shipping name	
· ADR	1993 FLAMMABLE LIQUID, N.O.S.
· IMDG, IATA	FLAMMABLE LIQUID, N.O.S.
· 14.3 Transport hazard class(es)	
· ADR, IMDG, IATA	
	
· Class	3 Flammable liquids.
· Label	3
· 14.4 Packing group	
· ADR, IMDG, IATA	III
· 14.5 Environmental hazards:	
· Marine pollutant:	No
· 14.6 Special precautions for user	Warning: Flammable liquids.
· Danger code (Kemler):	30
· EMS Number:	F-E, S-E
· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	5L
· Transport category	3
· Tunnel restriction code	D/E
· UN "Model Regulation":	UN1993, FLAMMABLE LIQUID, N.O.S., 3, III

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant phrases**
H304 May be fatal if swallowed and enters airways.
.....
R65 Harmful: may cause lung damage if swallowed.
- **Department issuing SDS:** Product safety department
- **Contact:** Mr. G.C. Spruijt

(Contd. on page 8)

GB

Trade name: Infineum R408 - Diluted

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· Abbreviations and acronyms:

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 3: Flammable liquids – Category 3

Asp. Tox. 1: Aspiration hazard – Category 1

GB

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name: HFA 4088

1.2 Relevant identified uses of the substance or mixture and uses advised against

CFPP Improver for gasoil/diesel

Sector of Use SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites

Product category PC13 Fuels

Application of the substance / the mixture Additive

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

WRT B.V.

Strawinskylaan 3067

1077ZX Amsterdam

The Netherlands

Tel.: 00-31-(0)20-644 2831

Fax.: 00-31-(0)20-642 3962

info@wrtbv.com

Further information obtainable from:

Product Safety Department

Tel.: 00-31-(0)-644 2831

info@wrtbv.com

Support is only given in the following languages: Dutch, English and German

1.4 Emergency telephone number:

Product Safety department

In case of a spill or accident, you can contact us at:

Tel.: 00-31-(0)20-644 2831

During office hours we can be contacted for general information at

Tel.: 00-31-(0)20-6442831

Support is only given in the following languages: Dutch, English, and German

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008



GHS08 health hazard

Muta. 1B

H340 May cause genetic defects.

Carc. 1B

H350 May cause cancer.



GHS09 environment

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.



GHS07

Skin Irrit. 2

H315 Causes skin irritation.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC



T; Toxic

R45-46: May cause cancer. May cause heritable genetic damage.

(Contd. on page 2)

Trade name: HFA 4088

(Contd. of page 1)



N; Dangerous for the environment

R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Information concerning particular hazards for human and environment:

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

Classification system:

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the CLP regulation.

Hazard pictograms



GHS07



GHS08



GHS09

Signal word Danger

Hazard-determining components of labelling:

Aromatic hydrocarbons, distn. residues, naptha
naphthalene

Hazard statements

H315 Causes skin irritation.

H340 May cause genetic defects.

H350 May cause cancer.

H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P103 Read label before use.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P273 Avoid release to the environment.

P321 Specific treatment (see on this label).

P308+P313 IF exposed or concerned: Get medical advice/attention.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

3.2 Chemical characterisation: Mixtures

Description: Mixture of substances listed below with nonhazardous additions.

(Contd. on page 3)

GB

Trade name: HFA 4088

(Contd. of page 2)

Dangerous components:

CAS: 64742-94-5 EC number: 919-284-0 Reg.nr.: 01-2119463583-34	Solvent naphtha (petroleum), heavy arom. Xn R65 Asp. Tox. 1, H304	10 - 15%
CAS: 98072-36-7 EC number: 308-487-4 Reg.nr.: 01-2119480164-41	Aromatic hydrocarbons, distn. residues, naptha T Carc. Cat. 2, Muta. Cat. 2 R45-46; Xn R22-65; Xi R38; N R50/53 Muta. 1B, H340; Carc. 1B, H350; Asp. Tox. 1, H304; Aquatic Chronic 1, H410; Acute Tox. 4, H302; Skin Irrit. 2, H315	8 - 12%
CAS: 64742-47-8 EINECS: 265-149-8 Reg.nr.: 01-2119484819-18	Distillates (petroleum), hydrotreated light Xn R65 Flam. Liq. 3, H226; Asp. Tox. 1, H304	5 - 10%
CAS: 91-20-3 EINECS: 202-049-5 Reg.nr.: 01-2119561346-37	naphthalene Xn R22-40; N R50/53 Carc. Cat. 3 Carc. 2, H351; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Acute Tox. 4, H302	2.5 - 4%
CAS: 95-63-6 EINECS: 202-436-9 Reg.nr.: 05-2117202756-46	1,2,4-trimethylbenzene Xn R20; Xi R36/37/38; N R51/53 R10 Flam. Liq. 3, H226; Aquatic Chronic 2, H411; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	1 - 3%
CAS: 108-67-8 EINECS: 203-604-4 Reg.nr.: 01-2119463878-19	mesitylene Xi R37; N R51/53 R10 Flam. Liq. 3, H226; Aquatic Chronic 2, H411; STOT SE 3, H335	0.25 - 1%

Additional information: For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures
After inhalation: Supply fresh air; consult doctor in case of complaints.

After skin contact: Immediately rinse with water.

After eye contact:

Rinse opened eye for several minutes under running water.

Check for and remove any contact lenses

After swallowing: If symptoms persist consult doctor.

4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media
Suitable extinguishing agents:

CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

For safety reasons unsuitable extinguishing agents: Water with full jet

5.2 Special hazards arising from the substance or mixture

In case of fire, the following can be released:

Carbon monoxide (CO)

(Contd. on page 4)

Trade name: HFA 4088

(Contd. of page 3)

5.3 Advice for firefighters

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from the fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Protective equipment: No special measures required.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures Not required.

6.2 Environmental precautions:

Do not allow product to reach sewage system or any water course.

Inform respective authorities in case of seepage into water course or sewage system.

Do not allow to enter sewers/ surface or ground water.

6.3 Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

6.4 Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

Prevent formation of aerosols.

Information about fire - and explosion protection: Keep respiratory protective device available.

7.2 Conditions for safe storage, including any incompatibilities

Storage:

Requirements to be met by storerooms and receptacles: No special requirements.

Information about storage in one common storage facility: Not required.

Further information about storage conditions: Keep container tightly sealed.

7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

Additional information about design of technical facilities: No further data; see item 7.

8.1 Control parameters

Ingredients with limit values that require monitoring at the workplace:

95-63-6 1,2,4-trimethylbenzene

WEL	Long-term value: 125 mg/m ³ , 25 ppm
ILV	

Additional information: The lists valid during the making were used as basis.

8.2 Exposure controls

Personal protective equipment:

General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.

(Contd. on page 5)

Trade name: HFA 4088

(Contd. of page 4)

Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Store protective clothing separately.

Respiratory protection:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

For the permanent contact gloves made of the following materials are suitable:

Nitrile rubber, NBR

For the permanent contact of a maximum of 15 minutes gloves made of the following materials are suitable:

PVC gloves

Eye protection:



Tightly sealed goggles

Body protection: Protective work clothing

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information

Appearance:

Form:

Liquid

Colour:

Brown

Odour:

Petroleum hydrocarbon odour

Odour threshold:

Not determined.

pH-value:

Not determined.

Change in condition

Melting point/Melting range:

Undetermined.

Boiling point/Boiling range:

>204 °C

Pour point

9 °C

(Contd. on page 6)

Trade name: HFA 4088

(Contd. of page 5)

· Flash point:	>72 °C
· Flammability (solid, gaseous):	Not applicable.
· Ignition temperature:	210 °C
· Decomposition temperature:	Not determined.
· Self-igniting:	Product is not selfigniting.
· Danger of explosion:	Product does not present an explosion hazard.
· Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
· Vapour pressure at 20 °C:	<7.0 kPa
· Density at 15 °C:	0,90 - 0,92 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with water:	Not miscible or difficult to mix.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic at 40 °C:	302.9 mm ² /s
· 9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid**
High temperature
Sources of ignition
Avoid the build-up of electrostatic charge
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity** Based on available data, the classification criteria are not met.

(Contd. on page 7)

Trade name: HFA 4088

(Contd. of page 6)

LD/LC50 values relevant for classification:

91-20-3 naphthalene

Oral	LD50	490 mg/kg (rat)
Dermal	LD50	5000 mg/kg (rat)

95-63-6 1,2,4-trimethylbenzene

Oral	LD50	5000 mg/kg (rat)
------	------	------------------

Primary irritant effect:

Skin corrosion/irritation

Causes skin irritation.

Serious eye damage/irritation

Based on available data, the classification criteria are not met.

Respiratory or skin sensitisation

Based on available data, the classification criteria are not met.

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Germ cell mutagenicity

May cause genetic defects.

Carcinogenicity

May cause cancer.

Reproductive toxicity

Based on available data, the classification criteria are not met.

STOT-single exposure

Based on available data, the classification criteria are not met.

STOT-repeated exposure

Based on available data, the classification criteria are not met.

Aspiration hazard

Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity:

No further relevant information available.

12.2 Persistence and degradability

No further relevant information available.

12.3 Bioaccumulative potential

No further relevant information available.

12.4 Mobility in soil

No further relevant information available.

Ecotoxicological effects:

Remark:

Toxic for fish

Additional ecological information:

General notes:

Water hazard class 3 (German Regulation) (Self-assessment): extremely hazardous for water

Do not allow product to reach ground water, water course or sewage system, even in small quantities.

Danger to drinking water if even extremely small quantities leak into the ground.

Also poisonous for fish and plankton in water bodies.

Toxic for aquatic organisms

12.5 Results of PBT and vPvB assessment

PBT:

Not applicable.

vPvB:

Not applicable.

12.6 Other adverse effects

No further relevant information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Recommendation

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

The generation of waste should be avoided or minimised wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant.

Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product,

(Contd. on page 8)

Trade name: HFA 4088

(Contd. of page 7)

solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of split material and runoff and contact with soil, waterways, drains and sewers.

· **Uncleaned packaging:**

· **Recommendation:**

Disposal must be made according to official regulations.

This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have been cleaned or rinsed out. Emptied containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of split material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

· **14.1 UN-Number**

· **ADR, IMDG, IATA**

UN3082

· **14.2 UN proper shipping name**

· **ADR**

3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (NAPHTHALENE, CRUDE, Hydrocarbon, C10, aromatics, >1% Naphthalene)

· **IMDG**

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (NAPHTHALENE, CRUDE, Hydrocarbon, C10, aromatics, >1% Naphthalene), MARINE POLLUTANT

· **IATA**

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (NAPHTHALENE, CRUDE, Hydrocarbon, C10, aromatics, >1% Naphthalene)

· **14.3 Transport hazard class(es)**

· **ADR, IMDG, IATA**



· **Class**

9 Miscellaneous dangerous substances and articles.

· **Label**

9

· **14.4 Packing group**

· **ADR, IMDG, IATA**

III

· **14.5 Environmental hazards:**

Product contains environmentally hazardous substances: Aromatic hydrocarbons, distn. residues, naptha

· **Marine pollutant:**

Yes

Symbol (fish and tree)

· **Special marking (ADR):**

Symbol (fish and tree)

· **Special marking (IATA):**

Symbol (fish and tree)

(Contd. on page 9)

Trade name: HFA 4088

(Contd. of page 8)

· 14.6 Special precautions for user	Warning: Miscellaneous dangerous substances and articles.
· Danger code (Kemler):	90
· EMS Number:	F-A,S-F
· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	5L
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· Transport category	3
· Tunnel restriction code	E
· IMDG	
· Limited quantities (LQ)	5L
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· UN "Model Regulation":	UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (NAPHTHALENE, CRUDE, Hydrocarbon, C10, aromatics, >1% Naphthalene), 9, III

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **National regulations:**
- **Information about limitation of use:**
Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation. Exceptions can be made by the authorities in certain cases.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant phrases**
- H226 Flammable liquid and vapour.
- H302 Harmful if swallowed.
- H304 May be fatal if swallowed and enters airways.
- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H332 Harmful if inhaled.
- H335 May cause respiratory irritation.
- H340 May cause genetic defects.

(Contd. on page 10)

Trade name: HFA 4088

(Contd. of page 9)

H350 May cause cancer.
H351 Suspected of causing cancer.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
H411 Toxic to aquatic life with long lasting effects.
.....
R10 Flammable.
R20 Harmful by inhalation.
R22 Harmful if swallowed.
R36/37/38 Irritating to eyes, respiratory system and skin.
R37 Irritating to respiratory system.
R38 Irritating to skin.
R40 Limited evidence of a carcinogenic effect.
R45 May cause cancer.
R46 May cause heritable genetic damage.
R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R65 Harmful: may cause lung damage if swallowed.

· **Department issuing MSDS:** Product safety department

· **Contact:** Mr. G.C. Spruijt

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 3: Flammable liquids, Hazard Category 3

Acute Tox. 4: Acute toxicity, Hazard Category 4

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2

Muta. 1B: Germ cell mutagenicity, Hazard Category 1B

Carc. 1B: Carcinogenicity, Hazard Category 1B

Carc. 2: Carcinogenicity, Hazard Category 2

STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

Asp. Tox. 1: Aspiration hazard, Hazard Category 1

Aquatic Acute 1: Hazardous to the aquatic environment - Acute Hazard, Category 1

Aquatic Chronic 1: Hazardous to the aquatic environment - Chronic Hazard, Category 1

Aquatic Chronic 2: Hazardous to the aquatic environment - Chronic Hazard, Category 2

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name: HFA 4099R

1.2 Relevant identified uses of the substance or mixture and uses advised against

CFPP Improver for gasoil/diesel

Sector of Use SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites

Product category PC13 Fuels

Application of the substance / the mixture Additive

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

WRT B.V.

Strawinskylaan 3067

1077ZX Amsterdam

The Netherlands

Tel.: 00-31-(0)20-644 2831

Fax.: 00-31-(0)20-642 3962

info@wrtbv.com

Further information obtainable from:

Product Safety Department

Tel.: 00-31-(0)-644 2831

info@wrtbv.com

Support is only given in the following languages: Dutch, English and German

1.4 Emergency telephone number:

Product Safety department

In case of a spill or accident, you can contact us at:

Tel.: 00-31-(0)20-644 2831

During office hours we can be contacted for general information at

Tel.: 00-31-(0)20-6442831

Support is only given in the following languages: Dutch, English, and German

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008



GHS08 health hazard

Muta. 1B H340 May cause genetic defects.

Carc. 1B H350 May cause cancer.

Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.



GHS09 environment

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

(Contd. on page 2)

Trade name: HFA 4099R

(Contd. of page 1)

Classification according to Directive 67/548/EEC or Directive 1999/45/EC



T; Toxic

R45-46: May cause cancer. May cause heritable genetic damage.



Xn; Harmful

R65: Harmful: may cause lung damage if swallowed.



N; Dangerous for the environment

R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Information concerning particular hazards for human and environment:

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

Classification system:

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the CLP regulation.

Hazard pictograms



GHS07



GHS08



GHS09

Signal word Danger

Hazard-determining components of labelling:

Aromatic hydrocarbons, distn. residues, naptha
Distillates (petroleum), hydrotreated light
naphthalene

Hazard statements

H315 Causes skin irritation.
H340 May cause genetic defects.
H350 May cause cancer.
H304 May be fatal if swallowed and enters airways.
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P103 Read label before use.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P273 Avoid release to the environment.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
P321 Specific treatment (see on this label).
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

GB

(Contd. on page 3)

Trade name: HFA 4099R

(Contd. of page 2)

SECTION 3: Composition/information on ingredients

3.2 Chemical characterisation: Mixtures

Description: Mixture of substances listed below with nonhazardous additions.

Dangerous components:

CAS: 64742-47-8 EINECS: 265-149-8 Reg.nr.: 01-2119484819-18	Distillates (petroleum), hydrotreated light Xn R65 Flam. Liq. 3, H226; Asp. Tox. 1, H304	10 - 15%
CAS: 98072-36-7 EC number: 308-487-4 Reg.nr.: 01-2119480164-41	Aromatic hydrocarbons, distn. residues, naptha T Carc. Cat. 2, Muta. Cat. 2 R45-46; Xn R22-65; Xi R38; N R50/53 Muta. 1B, H340; Carc. 1B, H350; Asp. Tox. 1, H304; Aquatic Chronic 1, H410; Acute Tox. 4, H302; Skin Irrit. 2, H315	5 - 10%
CAS: 64742-94-5 EC number: 919-284-0 Reg.nr.: 01-2119463583-34	Solvent naphtha (petroleum), heavy arom. Xn R65 Asp. Tox. 1, H304	4 - 6%
CAS: 91-20-3 EINECS: 202-049-5 Reg.nr.: 01-2119561346-37	naphthalene Xn R22-40; N R50/53 Carc. Cat. 3 Carc. 2, H351; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Acute Tox. 4, H302	1 - < 2.5%
CAS: 95-63-6 EINECS: 202-436-9 Reg.nr.: 05-2117202756-46	1,2,4-trimethylbenzene Xn R20; Xi R36/37/38; N R51/53 R10 Flam. Liq. 3, H226; Aquatic Chronic 2, H411; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	1 - < 1.5%
CAS: 108-67-8 EINECS: 203-604-4 Reg.nr.: 01-2119463878-19	mesitylene Xi R37; N R51/53 R10 Flam. Liq. 3, H226; Aquatic Chronic 2, H411; STOT SE 3, H335	0.25 - 0.75%

Additional information: For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

After inhalation:

Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

In event of over-exposure remove individual to fresh air, taking steps necessary to protect the rescuer. If unconscious but breathing, place in a recovery position. If breathing stops, administer artificial respiration.

After skin contact:

Remove contaminated clothing as soon as possible; this will be a fire hazard. Wash exposed skin thoroughly with soap and water. If irritation persists, consult a physician. Launder contaminated clothing before re-use. Badly contaminated leather shoes or clothing be discarded.

After eye contact:

Rinse opened eye for several minutes under running water.
Check for and remove any contact lenses

(Contd. on page 4)

Trade name: HFA 4099R

(Contd. of page 3)

· **After swallowing:**

If symptoms persist consult doctor.

If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed persons feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that the vomit does not enter the lungs. Get medical attention if adverse health persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediatly. Maintain an open airway. Loosen tight clothing such as a collar, tie , belt or waistband.

· **4.2 Most important symptoms and effects, both acute and delayed**

After swallowing the liquid can enter the lungs and cause pulmonary edema.

The symptoms of lung edema reveal themselves

· **4.3 Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

SECTION 5: Firefighting measures

· **5.1 Extinguishing media**

· **Suitable extinguishing agents:**

CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· **For safety reasons unsuitable extinguishing agents:** *Water with full jet*

· **5.2 Special hazards arising from the substance or mixture**

In case of fire, the following can be released:

Carbon monoxide (CO)

Carbon dioxide (CO2)

· **5.3 Advice for firefighters**

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from the fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

· **Protective equipment:**

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures** *Not required.*

· **6.2 Environmental precautions:**

Do not allow product to reach sewage system or any water course.

Inform respective authorities in case of seepage into water course or sewage system.

Do not allow to enter sewers/ surface or ground water.

· **6.3 Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

· **6.4 Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

GB

(Contd. on page 5)

Trade name: HFA 4099R

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SECTION 7: Handling and storage

7.1 Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Prevent formation of aerosols.

· **Information about fire - and explosion protection:** Keep respiratory protective device available.

7.2 Conditions for safe storage, including any incompatibilities

Storage:

· **Requirements to be met by storerooms and receptacles:** No special requirements.

· **Information about storage in one common storage facility:** Store away from oxidising agents.

· **Further information about storage conditions:** Keep container tightly sealed.

· **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· **Additional information about design of technical facilities:** No further data; see item 7.

8.1 Control parameters

· **Ingredients with limit values that require monitoring at the workplace:**

95-63-6 1,2,4-trimethylbenzene

WEL	Long-term value: 125 mg/m ³ , 25 ppm
ILV	

· **Additional information:** The lists valid during the making were used as basis.

8.2 Exposure controls

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Store protective clothing separately.

· **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

(Contd. on page 6)

Trade name: HFA 4099R

(Contd. of page 5)

Eye protection:



Tightly sealed goggles

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information

Appearance:

Form:	Liquid
Colour:	Dark yellow
Odour:	Aromatic
Odour threshold:	Not determined.

pH-value: Not applicable.

Change in condition

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	234 °C
Pouring point	9 °C

Flash point: 60,5 °C

Flammability (solid, gaseous): Not applicable.

Ignition temperature:

Decomposition temperature: Not determined.

Self-igniting: Product is not selfigniting.

Danger of explosion: Product does not present an explosion hazard.

Explosion limits:

Lower:	0.5 Vol %
Upper:	6.5 Vol %

Vapour pressure: Not determined.

Density at 15 °C: 0.90- 0.92 g/cm³

Relative density Not determined.

Vapour density Not determined.

Evaporation rate Not determined.

Solubility in / Miscibility with water:

Not miscible or difficult to mix.

Partition coefficient (n-octanol/water): Not determined.

Viscosity:

Dynamic:	Not determined.
Kinematic at 40 °C:	334.6 mm ² /s (DIN 53211/4)

(Contd. on page 7)

Trade name: HFA 4099R

(Contd. of page 6)

9.2 Other information

No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability** Stable under normal conditions
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid**
High temperature
Sources of ignition
Avoid the build-up of electrostatic charge
- **10.5 Incompatible materials:** Strong oxidizing agents
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
 - **Acute toxicity** Based on available data, the classification criteria are not met.
 - **LD/LC50 values relevant for classification:**
- | | | |
|---------------------------------------|------|------------------|
| 91-20-3 naphthalene | | |
| Oral | LD50 | 490 mg/kg (rat) |
| Dermal | LD50 | 5000 mg/kg (rat) |
| 95-63-6 1,2,4-trimethylbenzene | | |
| Oral | LD50 | 5000 mg/kg (rat) |
- **Primary irritant effect:**
 - **Skin corrosion/irritation**
Causes skin irritation.
 - **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
 - **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
 - **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
 - **Germ cell mutagenicity**
May cause genetic defects.
 - **Carcinogenicity**
May cause cancer.
 - **Reproductive toxicity** Based on available data, the classification criteria are not met.
 - **STOT-single exposure** Based on available data, the classification criteria are not met.
 - **STOT-repeated exposure** Based on available data, the classification criteria are not met.
 - **Aspiration hazard**
May be fatal if swallowed and enters airways.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** Not easily biodegradable

(Contd. on page 8)

Trade name: HFA 4099R

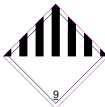

(Contd. of page 7)

- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Toxic for fish
- **Additional ecological information:**
- **General notes:**
Water hazard class 3 (German Regulation) (Self-assessment): extremely hazardous for water
Do not allow product to reach ground water, water course or sewage system, even in small quantities.
Danger to drinking water if even extremely small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
Toxic for aquatic organisms
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

SECTION 14: Transport information

- | | |
|---|--|
| <ul style="list-style-type: none"> · 14.1 UN-Number · ADR, IMDG, IATA | UN3082 |
| <ul style="list-style-type: none"> · 14.2 UN proper shipping name · ADR · IMDG · IATA | <p>3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Aromatic hydrocarbons, distn. residues, naptha, 1,2,4-trimethylbenzene)</p> <p>ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Aromatic hydrocarbons, distn. residues, naptha, 1,2,4-trimethylbenzene), MARINE POLLUTANT</p> <p>ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Aromatic hydrocarbons, distn. residues, naptha, 1,2,4-trimethylbenzene)</p> |
| <ul style="list-style-type: none"> · 14.3 Transport hazard class(es) · ADR, IMDG, IATA | <div style="display: flex; align-items: center;">   </div> |
| <ul style="list-style-type: none"> · Class · Label | <p>9 Miscellaneous dangerous substances and articles.</p> <p>9</p> |

(Contd. on page 9)

Trade name: HFA 4099R

(Contd. of page 8)

· 14.4 Packing group	
· ADR, IMDG, IATA	III
· 14.5 Environmental hazards:	Product contains environmentally hazardous substances: Aromatic hydrocarbons, distn. residues, naptha
· Marine pollutant:	Yes Symbol (fish and tree)
· Special marking (ADR):	Symbol (fish and tree)
· Special marking (IATA):	Symbol (fish and tree)
· 14.6 Special precautions for user	Warning: Miscellaneous dangerous substances and articles.
· Danger code (Kemler):	90
· EMS Number:	F-A,S-F
· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	5L
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· Transport category	3
· Tunnel restriction code	E
· IMDG	
· Limited quantities (LQ)	5L
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· UN "Model Regulation":	UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Aromatic hydrocarbons, distn. residues, naptha, 1,2,4-trimethylbenzene), 9, III

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **National regulations:**
- **Information about limitation of use:**
Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation.
Exceptions can be made by the authorities in certain cases.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

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Trade name: HFA 4099R

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Relevant phrases

- H226 *Flammable liquid and vapour.*
- H302 *Harmful if swallowed.*
- H304 *May be fatal if swallowed and enters airways.*
- H315 *Causes skin irritation.*
- H319 *Causes serious eye irritation.*
- H332 *Harmful if inhaled.*
- H335 *May cause respiratory irritation.*
- H340 *May cause genetic defects.*
- H350 *May cause cancer.*
- H351 *Suspected of causing cancer.*
- H400 *Very toxic to aquatic life.*
- H410 *Very toxic to aquatic life with long lasting effects.*
- H411 *Toxic to aquatic life with long lasting effects.*
- R10 *Flammable.*
- R20 *Harmful by inhalation.*
- R22 *Harmful if swallowed.*
- R36/37/38 *Irritating to eyes, respiratory system and skin.*
- R37 *Irritating to respiratory system.*
- R38 *Irritating to skin.*
- R40 *Limited evidence of a carcinogenic effect.*
- R45 *May cause cancer.*
- R46 *May cause heritable genetic damage.*
- R50/53 *Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.*
- R51/53 *Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.*
- R65 *Harmful: may cause lung damage if swallowed.*

Department issuing MSDS: Product safety department

Contact: Mr. G.C. Spruijt

Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
 IMDG: International Maritime Code for Dangerous Goods
 IATA: International Air Transport Association
 GHS: Globally Harmonised System of Classification and Labelling of Chemicals
 EINECS: European Inventory of Existing Commercial Chemical Substances
 ELINCS: European List of Notified Chemical Substances
 CAS: Chemical Abstracts Service (division of the American Chemical Society)
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent
 PBT: Persistent, Bioaccumulative and Toxic
 vPvB: very Persistent and very Bioaccumulative
 Flam. Liq. 3: Flammable liquids, Hazard Category 3
 Acute Tox. 4: Acute toxicity, Hazard Category 4
 Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
 Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2
 Muta. 1B: Germ cell mutagenicity, Hazard Category 1B
 Carc. 1B: Carcinogenicity, Hazard Category 1B
 Carc. 2: Carcinogenicity, Hazard Category 2
 STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3
 Asp. Tox. 1: Aspiration hazard, Hazard Category 1
 Aquatic Acute 1: Hazardous to the aquatic environment - AcuteHazard, Category 1
 Aquatic Chronic 1: Hazardous to the aquatic environment - Chronic Hazard, Category 1
 Aquatic Chronic 2: Hazardous to the aquatic environment - Chronic Hazard, Category 2

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name: **HFA 4393**

1.2 Relevant identified uses of the substance or mixture and uses advised against

CFPP Improver for gasoil/diesel

Sector of Use SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites

Product category PC13 Fuels

Application of the substance / the mixture Additive

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

WRT B.V.

Strawinskylaan 3067

1077ZX Amsterdam

The Netherlands

Tel.: 00-31-(0)20-644 2831

Fax.: 00-31-(0)20-642 3962

info@wrtbv.com

Further information obtainable from:

Product Safety Department

Tel.: 00-31-(0)-644 2831

info@wrtbv.com

Support is only given in the following languages: Dutch, English and German

1.4 Emergency telephone number:

Product Safety department

In case of a spill or accident, you can contact us at:

Tel.: 00-31-(0)20-644 2831

During office hours we can be contacted for general information at

Tel.: 00-31-(0)20-6442831

Support is only given in the following languages: Dutch, English, and German

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

The product is not classified according to the CLP regulation.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC Not applicable.

Information concerning particular hazards for human and environment:

The product does not have to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

Classification system:

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 Void

Hazard pictograms Void

Signal word Void

Hazard statements Void

2.3 Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

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Trade name: HFA 4393

(Contd. of page 1)



· **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

3.2 Chemical characterisation: Mixtures

· **Description:** Mixture of substances listed below with nonhazardous additions.

Dangerous components:

CAS: 64742-94-5 EINECS: 265-198-5 Reg.nr.: 01-2119463583-34	Solvent naphtha (petroleum), heavy arom.	 Xn R65  Asp. Tox. 1, H304	18 - 22%
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· **Additional information:** For the wording of the listed risk phrases refer to section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

· **General information:** No special measures required.

· **After inhalation:** Supply fresh air; consult doctor in case of complaints.

· **After skin contact:** Generally the product does not irritate the skin.

· **After eye contact:** Rinse opened eye for several minutes under running water.

· **After swallowing:** If symptoms persist consult doctor.

4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing agents:

CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· **For safety reasons unsuitable extinguishing agents:** Water with full jet

5.2 Special hazards arising from the substance or mixture

No further relevant information available.

5.3 Advice for firefighters

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from the fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

· **Protective equipment:** No special measures required.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Not required.

· **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.

6.3 Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

6.4 Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

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Safety data sheet

according to 453/2010/EC

Printing date 13.10.2015

Version number 1

Revision: 13.10.2015

Trade name: HFA 4393

See Section 13 for disposal information.

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SECTION 7: Handling and storage

- **7.1 Precautions for safe handling** No special measures required.
- **Information about fire - and explosion protection:** No special measures required.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** None.
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **8.1 Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists valid during the making were used as basis.
- **8.2 Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
The usual precautionary measures are to be adhered to when handling chemicals.
- **Respiratory protection:** Not required.
- **Protection of hands:**
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **For the permanent contact gloves made of the following materials are suitable:**
Nitrile rubber, NBR
Fluorocarbon rubber (Viton)
- **Eye protection:** Goggles recommended during refilling
- **Body protection:** Protective work clothing

GB

(Contd. on page 4)

Trade name: HFA 4393

(Contd. of page 3)

SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· General Information

· Appearance:

Form:	Liquid
Colour:	Amber coloured
Odour:	Petroleum hydrocarbon odour
Odour threshold:	Not determined.

pH-value:	Not determined. Not applicable.
------------------	------------------------------------

· Change in condition

Melting point/Melting range: Undetermined.

Boiling point/Boiling range: 204 °C

· Drip point:

Pour point 3 °C

Flash point: 67 °C

Flammability (solid, gaseous): Not applicable.

· Ignition temperature:

Decomposition temperature: Not determined.

Self-igniting: Product is not selfigniting.

Danger of explosion: Product does not present an explosion hazard.

· Explosion limits:

Lower: Not determined.

Upper: Not determined.

Vapour pressure at 20 °C: <7.0 kPa

Density at 15 °C: 0.912 g/cm³

Relative density Not determined.

Vapour density Not determined.

Evaporation rate Not determined.

· Solubility in / Miscibility with water:

Not miscible or difficult to mix.

Partition coefficient (n-octanol/water): Not determined.

· Viscosity:

Dynamic: Not determined.

Kinematic at 40 °C: 154 mm²/s

· 9.2 Other information

No further relevant information available.

SECTION 10: Stability and reactivity

· **10.1 Reactivity** No further relevant information available.

(Contd. on page 5)

Safety data sheet according to 453/2010/EC

Printing date 13.10.2015

Version number 1

Revision: 13.10.2015

Trade name: HFA 4393

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- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity**
- **Primary irritant effect:**
- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation** Smaller quantities can be disposed of with household waste.

(Contd. on page 6)

Trade name: HFA 4393

(Contd. of page 5)

- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

SECTION 14: Transport information

- | | |
|--|-----------------|
| · 14.1 UN-Number
· ADR, IMDG, IATA | Void |
| · 14.2 UN proper shipping name
· ADR, IMDG, IATA | Void |
| · 14.3 Transport hazard class(es)
· ADR, IMDG, IATA
· Class | Void |
| · 14.4 Packing group
· ADR, IMDG, IATA | Void |
| · 14.5 Environmental hazards: | Not applicable. |
| · 14.6 Special precautions for user | Not applicable. |
| · 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code | Not applicable. |
| · UN "Model Regulation": | Void |

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant phrases**
 H304 May be fatal if swallowed and enters airways.
 R65 Harmful: may cause lung damage if swallowed.
- **Department issuing MSDS:** Product safety department
- **Contact:** Mr. G.C. Spruijt
- **Abbreviations and acronyms:**
 Asp. Tox. 1: Aspiration hazard, Hazard Category 1