

Version #: 01

Issue date: 12-09-2021

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

1.1. Product identifier

Trade name or designation of the mixture Catalyst-1

Registration number -

Synonyms None.

Product code 5-06-0304-0

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

Identified uses

Uses advised against

1.3. Details of the supplier of the safety data sheet

Company name MITSUBISHI GAS CHEMICAL COMPANY, INC.
 Address 5-2, Marunouchi 2-chome, Chiyoda-ku, Tokyo 100-8324, Japan
 Department in Charge Planning & Development Division, Basic Chemicals Business Sector
 Telephone Number 2E
 Facsimile Number 2E
 Email Address 2E @mgc.co.jp
 Global Incident Response Hotline +81-3-6890-8677(Verisk 3E)
 Access code 335392

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

The mixture has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

Classification according to Regulation (EC) No 1272/2008 as amended

Health hazards

Acute toxicity, oral	Category 3	H301 - Toxic if swallowed.
Serious eye damage/eye irritation	Category 2	H319 - Causes serious eye irritation.
Respiratory sensitization	Category 1	H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin sensitization	Category 1	H317 - May cause an allergic skin reaction.
Germ cell mutagenicity	Category 1B	H340 - May cause genetic defects.
Carcinogenicity	Category 2	H351 - Suspected of causing cancer.
Reproductive toxicity	Category 1B	H360 - May damage fertility or the unborn child.
Reproductive toxicity (the unborn child)	Category 2	H361d - Suspected of damaging the unborn child.
Specific target organ toxicity - single exposure	Category 2 (kidney, liver, respiratory system)	H371 - May cause damage to organs (kidney, liver, respiratory system).
Specific target organ toxicity - repeated exposure	Category 2 (respiratory system)	H373 - May cause damage to organs (respiratory system) through prolonged or repeated exposure.

Environmental hazards

Hazardous to the aquatic environment,
long-term aquatic hazard

Category 2

H411 - Toxic to aquatic life with
long lasting effects.

2.2. Label elements**Label according to Regulation (EC) No. 1272/2008 as amended**

Contains: divanadium pentaoxide; vanadium pentoxide, Molybdenum(VI) oxide, titanium dioxide [in powder form containing 1 % or more of particles with aerodynamic diameter $\leq 10 \mu\text{m}$]

Hazard pictograms**Signal word**

Danger

Hazard statements

H301	Toxic if swallowed.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H340	May cause genetic defects.
H351	Suspected of causing cancer.
H360	May damage fertility or the unborn child.
H361d	Suspected of damaging the unborn child.
H371	May cause damage to organs (kidney, liver, respiratory system).
H373	May cause damage to organs (respiratory system) through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.

Precautionary statements**Prevention**

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P264	Wash thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P284	Wear respiratory protection.

Response

P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P330	Rinse mouth.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P311	IF exposed or concerned: Call a POISON CENTER/doctor.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P337 + P313	If eye irritation persists: Get medical advice/attention.
P342 + P311	If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
P362 + P364	Take off contaminated clothing and wash it before reuse.
P391	Collect spillage.

Storage

P405	Store locked up.
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Disposal

P501	Dispose of contents/container in accordance with local/regional/national/international regulations.
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Supplemental label ^{2E} above special instruction is this SDS.

2.3. Other hazards

This mixture does not contain substances assessed to be vPvB / PBT according to Regulation (EC) No 1907/2006, Annex XIII. The mixture does not contain any substances included in the list established in accordance with REACH Article 59(1) for having endocrine disrupting properties at a concentration equal to or greater than 0.1% by weight.

SECTION 3: Composition/information on ingredients**3.2. Mixtures**

General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
titanium dioxide [in powder form containing 1 % or more of particles with aerodynamic diameter $\leq 10 \mu\text{m}$]	-	13463-67-7 236-675-5	-	022-006-002	
Classification: Carc. 2;H351					1,V,W
divanadium pentaoxide; vanadium pentoxide	-	1314-62-1 215-239-8	-	023-001-00-8	
Classification: Acute Tox. 4;H302;(ATE: 500 mg/kg), Acute Tox. 4;H332;(ATE: 1,5 mg/l), Muta. 2;H341, Carc. 2;H351, Repr. 2;H361d, STOT SE 3;H335, STOT RE 1;H372, Aquatic Acute 1;H400, Aquatic Chronic 2;H411					
Chromic oxide	-	1308-38-9 215-160-9	-	-	#
Classification: -					
diboron trioxide; boric oxide	-	1303-86-2 215-125-8	-	005-008-00-8	
Classification: Repr. 1B;H360FD					
Specific Concentration Limits: Repr. 1B;H360FD: C $\geq 3.1 \%$					
Molybdenum(VI) oxide	-	1313-27-5 215-204-7	-	042-001-00-9	
Classification: Acute Tox. 3;H301;(ATE: 83 mg/kg), Eye Irrit. 2;H319, Carc. 2;H351, STOT SE 3;H335, Aquatic Chronic 3;H412					
Other components below reportable levels	-				

List of abbreviations and symbols that may be used above

ATE: Acute toxicity estimate.

M: M-factor

PBT: persistent, bioaccumulative and toxic substance.

vPvB: very persistent and very bioaccumulative substance.

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume. #: This substance has been assigned Union workplace exposure limit(s).

Composition comments

The full text for all H-statements is displayed in section 16.

SECTION 4: First aid measures

General information

If you feel unwell, seek medical advice (show the label where possible).

4.1. Description of first aid measures

Inhalation

Call a poison center or doctor/physician. Immediately move victim to fresh air and keep at rest in a position comfortable for breathing.

Skin contact

Wash off with soap and plenty of water. If skin irritation or rash occurs: Get medical advice/attention.

Eye contact

Rinse cautiously with water for several minutes. If eye irritation persists: Get medical advice/attention.

Ingestion

Call a physician immediately.

4.2. Most important symptoms and effects, both acute and delayed

Exposure may cause temporary irritation, redness, or discomfort.

4.3. Indication of any immediate medical attention and special treatment needed

Not available.

SECTION 5: Firefighting measures

General fire hazards

Not available.

5.1. Extinguishing media

Suitable extinguishing media

Water Fog. Foam. Powder. Dry sand. Carbon dioxide.

Unsuitable extinguishing media

Water injection.

5.2. Special hazards arising from the substance or mixture

During fire, gases hazardous to health may be formed.

5.3. Advice for firefighters

Special protective equipment for firefighters

Wear appropriate protective equipment and work at a windward side.

Special fire fighting procedures	Not available.
Specific methods	In case of fire in the surroundings, immediately move the container to a safe place. If it is impossible to move, sprinkle water on the container and surroundings to cool it.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures	
For non-emergency personnel	Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
For emergency responders	Keep unnecessary personnel away. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. Use personal protection recommended in Section 8 of the SDS.
6.2. Environmental precautions	Do not drain the leakage into rivers.
6.3. Methods and material for containment and cleaning up	Prevent product from entering drains. Collect and collect spills as much as possible.
6.4. Reference to other sections	For personal protection, see section 8 of the SDS. For waste disposal, see section 13 of the SDS.

SECTION 7: Handling and storage

7.1. Precautions for safe handling	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not taste or swallow. Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. When using, do not eat, drink or smoke. Pregnant or breastfeeding women must not handle this product. Should be handled in closed systems, if possible. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices.
7.2. Conditions for safe storage, including any incompatibilities	Store locked up. Store in tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).
7.3. Specific end use(s)	Observe industrial sector guidance on best practices.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters		
Occupational exposure limits		
Netherlands. OELs (binding)		
Components	Type	Value
Chromic oxide (CAS 1308-38-9)	STEL	1 mg/m3
	TWA	0,5 mg/m3
divanadium pentaoxide; vanadium pentoxide (CAS 1314-62-1)	STEL	0,03 mg/m3
	TWA	0,01 mg/m3
EU. Indicative Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU		
Components	Type	Value
Chromic oxide (CAS 1308-38-9)	TWA	2 mg/m3
Biological limit values	No biological exposure limits noted for the ingredient(s).	
Recommended monitoring procedures	Follow standard monitoring procedures.	
Derived no effect levels (DNELs)	Not available.	
Predicted no effect concentrations (PNECs)	Not available.	
8.2. Exposure controls		
Appropriate engineering controls	Provide eyewashing and washing facilities near the workplace.	
Individual protection measures, such as personal protective equipment		
General information	Use personal protective equipment as required. Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.	
Eye/face protection	Protective glasses (goggles, protective face)	

Skin protection	
- Hand protection	Protective gloves. Suitable gloves can be recommended by the glove supplier.
- Other	Long-sleeved protective clothing, safety hat, safety shoes, etc.
Respiratory protection	Dust mask.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
Hygiene measures	Do not eat, drink or smoke when using the product. Wash hands after handling and before eating. Wash hands and face thoroughly after handling.
Environmental exposure controls	Inform appropriate managerial or supervisory personnel of all environmental releases. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. Fume scrubbers, filters or engineering modifications to the process equipment may be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Solid.
Form	Solid.
Color	Dark brown.
Odor	Odorless.
Melting point/freezing point	1855°C(TiO ₂), 690°C(V ₂ O ₅), 2435°C(Cr ₂ O ₃), approx. 448-552°C(B ₂ O ₃), 795°C(MoO ₃)
Boiling point or initial boiling point and boiling range	2500-3000°C(TiO ₂), 1750°C(V ₂ O ₅), 4000°C(Cr ₂ O ₃), approx. 4000°C(B ₂ O ₃), 1155°C(MoO ₃)
Flammability	Not available.
Flash point	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
pH	Not available.
Kinematic viscosity	Not available.
Solubility	
Solubility (water)	0,8g/100ml(V ₂ O ₅), 2,77g/100g(20°C)(B ₂ O ₃), 0,107g/100ml(MoO ₃) (Not Soluble: TiO ₂ , Cr ₂ O ₃)
Partition coefficient (n-octanol/water) (log value)	Not available.
Vapor pressure	Not available.
Density and/or relative density	
Relative density	3,9-4,2(TiO ₂), 3,357(V ₂ O ₅), 5,22(Cr ₂ O ₃), 2,45-2,47(B ₂ O ₃), 4,69(MoO ₃)
Vapor density	Not available.
Particle characteristics	Not available.

9.2. Other information

9.2.1. Information with regard to physical hazard classes	No relevant additional information available.
9.2.2. Other safety characteristics	No relevant additional information available.

SECTION 10: Stability and reactivity

10.1. Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
10.2. Chemical stability	Material is stable under normal conditions.
10.3. Possibility of hazardous reactions	Promotes combustion of other substances. Greatly increases the burning rate of combustible materials. It acts as a catalyst in the oxidation reaction. (V ₂ O ₅) It is hygroscopic and reacts slowly with water to form boric acid. Corrosive to metals in the presence of moist air. Reacts violently with hydrofluoric acid, producing BF ₃ and oxygen. Reduced with alkali metals, magnesium, etc. Avoid sunlight, heat and moisture absorption. (B ₂ O ₃)
10.4. Conditions to avoid	High temperatures. Heat. (V ₂ O ₅) Diffusion of dust. (Cr ₂ O ₃) Moisture absorption. (B ₂ O ₃) (MoO ₃)
10.5. Incompatible materials	Combustible material Reducing agents. (V ₂ O ₅) Fluorine., Alkali metal., Magnesium. (B ₂ O ₃) Alkaline aqueous solution, ammonia, halogen compounds, molten magnesium, alkali metal (MoO ₃)

10.6. Hazardous decomposition products

The substance produces toxic fumes on heating. (V2O5)

SECTION 11: Toxicological information

General information Occupational exposure to the substance or mixture may cause adverse effects.

Information on likely routes of exposure

Inhalation	May cause allergy or asthma symptoms or breathing difficulties if inhaled. Prolonged inhalation may be harmful.
Skin contact	May cause an allergic skin reaction.
Eye contact	Causes serious eye irritation.
Ingestion	Toxic if swallowed.

Symptoms Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Difficulty in breathing. May cause an allergic skin reaction. Dermatitis. Rash. Edema. Jaundice.

11.1. Information on toxicological effects

Acute toxicity	Toxic if swallowed.
Skin corrosion/irritation	Due to partial or complete lack of data the classification is not possible.
Serious eye damage/eye irritation	Causes serious eye irritation.
Respiratory sensitization	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin sensitization	May cause an allergic skin reaction.
Germ cell mutagenicity	May cause genetic defects.
Carcinogenicity	Suspected of causing cancer.

IARC Monographs. Overall Evaluation of Carcinogenicity

Chronic oxide (CAS 1308-38-9)	3 Not classifiable as to carcinogenicity to humans.
divanadium pentaoxide; vanadium pentoxide (CAS 1314-62-1)	2B Possibly carcinogenic to humans.
Molybdenum(VI) oxide (CAS 1313-27-5)	2B Possibly carcinogenic to humans.
titanium dioxide [in powder form containing 1 % or more of particles with aerodynamic diameter $\leq 10 \mu\text{m}$] (CAS 13463-67-7)	2B Possibly carcinogenic to humans.

Reproductive toxicity	May damage fertility or the unborn child.
Specific target organ toxicity - single exposure	May cause damage to organs (kidney, liver, respiratory system).
Specific target organ toxicity - repeated exposure	May cause damage to organs (respiratory system) through prolonged or repeated exposure.
Aspiration hazard	Due to partial or complete lack of data the classification is not possible.
Mixture versus substance information	No information available.

11.2. Information on other hazards

Endocrine disrupting properties	This mixture does not contain any substances having endocrine disrupting properties with respect to human health as assessed in accordance with the criteria set out in Regulations (EC) No 1907/2006, (EU) No 2017/2100 and (EU) 2018/605, at a concentration equal to or greater than 0.1% by weight.
Other information	Not available.

SECTION 12: Ecological information

12.1. Toxicity Toxic to aquatic life with long lasting effects. Based on available data, the classification criteria are not met for hazardous to the aquatic environment, acute hazard.

Components	Species	Test Results
divanadium pentaoxide; vanadium pentoxide (CAS 1314-62-1)		
Aquatic		
<i>Acute</i>		
Fish	LC50	Tigerfish, crescent perch (Therapon jarbua) 0,62 mg/l, 96 hours

Components	Species	Test Results
Molybdenum(VI) oxide (CAS 1313-27-5)		
Aquatic		
<i>Acute</i>		
Fish	LC50	Fathead minnow (Pimephales promelas) 70 mg/l, 96 hours
12.2. Persistence and degradability	No data is available on the degradability of any ingredients in the mixture.	
12.3. Bioaccumulative potential	No data available.	
Partition coefficient n-octanol/water (log Kow)	Not available.	
Bioconcentration factor (BCF)	Not available.	
12.4. Mobility in soil	No data available.	
12.5. Results of PBT and vPvB assessment	This mixture does not contain substances assessed to be vPvB / PBT according to Regulation (EC) No 1907/2006, Annex XIII.	
12.6. Endocrine disrupting properties	This mixture does not contain any substances having endocrine disrupting properties with respect to the environment as assessed in accordance with the criteria set out in Regulations (EC) No 1907/2006, (EU) No 2017/2100 and (EU) 2018/605, at a concentration equal to or greater than 0.1% by weight.	
12.7. Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.	

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Residual waste	Outsource the contents / container to a professional waste disposal contractor licensed by the prefectural governor.
Contaminated packaging	Outsource the contents / container to a professional waste disposal contractor licensed by the prefectural governor.
EU waste code	The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Special precautions	Dispose in accordance with all applicable regulations.

SECTION 14: Transport information

ADR

14.1. UN number	UN3288
14.2. UN proper shipping name	TOXIC SOLID, INORGANIC, N.O.S.
14.3. Transport hazard class(es)	
Class	6.1
Subsidiary risk	-
Label(s)	6.1
Hazard No. (ADR)	60
Tunnel restriction code	E
14.4. Packing group	III
14.5. Environmental hazards	No.
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

RID

14.1. UN number	UN3288
14.2. UN proper shipping name	TOXIC SOLID, INORGANIC, N.O.S.
14.3. Transport hazard class(es)	
Class	6.1
Subsidiary risk	-
Label(s)	6.1
14.4. Packing group	III
14.5. Environmental hazards	No.
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

ADN

14.1. UN number	UN3288
14.2. UN proper shipping name	TOXIC SOLID, INORGANIC, N.O.S.

14.3. Transport hazard class(es)

Class 6.1
Subsidiary risk -
Label(s) 6.1

14.4. Packing group III

14.5. Environmental hazards No.

14.6. Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

IATA

14.1. UN number UN3288

14.2. UN proper shipping name Toxic solid, inorganic, n.o.s.

14.3. Transport hazard class(es)

Class 6.1
Subsidiary risk -

14.4. Packing group III

14.5. Environmental hazards No.

ERG Code 6L

14.6. Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Other information

Passenger and cargo aircraft Allowed with restrictions.

Cargo aircraft only Allowed with restrictions.

IMDG

14.1. UN number UN3288

14.2. UN proper shipping name TOXIC SOLID, INORGANIC, N.O.S., MARINE POLLUTANT

14.3. Transport hazard class(es)

Class 6.1
Subsidiary risk -

14.4. Packing group III

14.5. Environmental hazards

Marine pollutant Yes

EmS F-A, S-A

14.6. Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

14.7. Maritime transport in bulk according to IMO instruments Not applicable.

ADN; ADR; IATA; IMDG; RID



Marine pollutant



General information

IMDG Regulated Marine Pollutant.

SECTION 15: Regulatory information

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

EU regulations

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended

Not listed.

Regulation (EU) 2019/1021 On persistent organic pollutants (recast), as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended

Not listed.

Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended

Chromic oxide (CAS 1308-38-9)

titanium dioxide [in powder form containing 1 % or more of particles with aerodynamic diameter $\leq 10 \mu\text{m}$] (CAS 13463-67-7)

Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA

diboron trioxide; boric oxide (CAS 1303-86-2)

Authorizations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended

Not listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended

diboron trioxide; boric oxide (CAS 1303-86-2)

Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended

divanadium pentaoxide; vanadium pentoxide (CAS 1314-62-1)

Other EU regulations

Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended

divanadium pentaoxide; vanadium pentoxide (CAS 1314-62-1)

Other regulations

The product is classified and labelled in accordance with Regulation (EC) 1272/2008 (CLP Regulation) as amended. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006, as amended.

National regulations

According to Directive 92/85/EEC as amended, pregnant women should not work with the product, if there is the least risk of exposure.

Young people under 18 years old are not allowed to work with this product according to EU Directive 94/33/EC on the protection of young people at work, as amended. Follow national regulation on the protection of workers from the risks of exposure to carcinogens and mutagens at work, in accordance with Directive 2004/37/EC, as amended.

Non-exhaustive list of substances toxic for reproduction

diboron trioxide; boric oxide (CAS 1303-86-2)

May cause harm to the unborn child. 1B

May impair fertility. 1B

divanadium pentaoxide; vanadium pentoxide (CAS 1314-62-1)

Possible risk of harm to the unborn child. 2

SZW list of carcinogenic substances

Not listed.

SZW list of mutagenic substances

Not listed.

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out.

SECTION 16: Other information

List of abbreviations

ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.

CAS: Chemical Abstract Service.

CEN: European Committee for Standardization.

IATA: International Air Transport Association.

IBC Code: International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk.

IMDG: International Maritime Dangerous Goods.

MARPOL: International Convention for the Prevention of Pollution from Ships.

PBT: Persistent, bioaccumulative and toxic.

RID: Regulations concerning the International Carriage of Dangerous Goods by Rail.

STEL: Short term exposure limit.

TWA: Time Weighted Average.

vPvB: Very persistent and very bioaccumulative.

Not available.

The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available.

References

Information on evaluation method leading to the classification of mixture

Full text of any H-statements not written out in full under Sections 2 to 15

H301 Toxic if swallowed.

H302 Harmful if swallowed.

H319 Causes serious eye irritation.

H332 Harmful if inhaled.

H335 May cause respiratory irritation.

H341 Suspected of causing genetic defects.

H351 Suspected of causing cancer by inhalation.

H351 Suspected of causing cancer.

H360FD May damage fertility. May damage the unborn child.

H361d Suspected of damaging the unborn child.

H372 Causes damage to organs through prolonged or repeated exposure.

H400 Very toxic to aquatic life.

H411 Toxic to aquatic life with long lasting effects.

H412 Harmful to aquatic life with long lasting effects.

None.

Revision information

Training information

Disclaimer

Follow training instructions when handling this material.

mitsubishi gas chemical company, inc. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.