SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Version 6.7
Revision Date 18.02.2021
Print Date 28.02.2021

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

1.1 Product identifiers

Product name : Acetonitrile

Product Number : 34851
Brand : SIGALD
Index-No. : 608-001-00-3
REACH No. : 01-2119471307-38-XXXX
CAS-No. : 75-05-8

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

Identified uses : Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich Ireland Ltd.
Vale Road, Arklow
Eircode Y14EK18
CO WICKLOW
IRELAND

Telephone : +353 402-20300
E-mail address : TechnicalService@merckgroup.com

1.4 Emergency telephone

Emergency Phone # : +(353)-19014670 (CHEMTREC)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008
Flammable liquids (Category 2), H225
Acute toxicity, Oral (Category 4), H302
Acute toxicity, Inhalation (Category 4), H332
Acute toxicity, Dermal (Category 4), H312
Eye irritation (Category 2), H319

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008
Pictogram

Signal word Danger

Hazard statement(s)	
H225	Highly flammable liquid and vapor.
H302 + H312 + H332	Harmful if swallowed, in contact with skin or if inhaled.
H319	Causes serious eye irritation.
Precautionary statement(s)	
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.
P301 + P312	IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P304 + P340 + P312	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Supplemental Hazard Statements	none

Reduced Labeling (<= 125 ml)

Pictogram

Signal word	Danger
Hazard statement(s)	none
Precautionary statement(s)	none
Supplemental Hazard Statements	none

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances

Synonyms	:	Methyl cyanide ACN
Formula	:	C_2H_3N
Molecular weight	:	41.05 g/mol
CAS-No.	:	75-05-8
EC-No.	:	200-835-2
Index-No.	:	608-001-00-3

Component		Classification	Concentration
Acetonitrile			
CAS-No. EC-No.	75-05-8 200-835-2	Flam. Liq. 2; Acute Tox. 4; Eye Irrit. 2; H225, H302,	<= 100 %

Index-No.	608-001-00-3	H332, H312, H319	

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice
Show this material safety data sheet to the doctor in attendance.

If inhaled
After inhalation: fresh air. If breathing stops: mouth-to-mouth breathing or artificial respiration. Oxygen if necessary. Immediately call in physician.

In case of skin contact
In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.

In case of eye contact
After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

If swallowed
After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed
No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media
Water Foam Carbon dioxide (CO2) Dry powder

Unsuitable extinguishing media
For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture
Carbon oxides
Nitrogen oxides (NOx)
Combustible.
Pay attention to flashback.
Vapors are heavier than air and may spread along floors.
Development of hazardous combustion gases or vapours possible in the event of fire.
Forms explosive mixtures with air at ambient temperatures.

5.3 Advice for firefighters
Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

5.4 Further information

Remove container from danger zone and cool with water. Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition.
Evacuate the danger area, observe emergency procedures, consult an expert.
For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains. Risk of explosion.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material (e.g. Chemizorb®).
Dispose of properly. Clean up affected area.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling
Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Filled under nitrogen.**Advice on safe handling**
Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

Advice on protection against fire and explosion
Keep away from open flames, hot surfaces and sources of ignition.Take precautionary measures against static discharge.

Hygiene measures
Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.
For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions
Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis
Acetonitrile	75-05-8	TWA	40 ppm 70 mg/m3	Europe. Indicative occupational exposure limit values
	Remarks	Indicative Identifies the possibility of significant uptake through the skin		
		OELV - 8 hrs (TWA)	40 ppm 70 mg/m3	Ireland. List of Chemical Agents and Occupational Exposure Limit Values - Schedule 1
		Substances which have the capacity to penetrate intact skin when they come in contact with it, and be absorbed into the body		

Derived No Effect Level (DNEL)

Application Area	Routes of exposure	Health effect	Value
Workers	Inhalation	Acute local effects, Acute systemic effects	68 mg/m3
Workers	Skin contact	Long-term systemic effects	32.2mg/kg BW/d
Workers	Inhalation	Long-term local effects, Long-term systemic effects	68 mg/m3
Consumers	Inhalation	Acute local effects	220 mg/m3
Consumers	Inhalation	Acute systemic effects	22 mg/m3
Consumers	Inhalation	Long-term systemic effects	4.8 mg/m3

Predicted No Effect Concentration (PNEC)

Compartment	Value
Water	10 mg/l
Soil	2.41 mg/kg
Sea water	1 mg/l
Fresh water	10 mg/l
Fresh water sediment	7.53 mg/kg
Onsite sewage treatment plant	32 mg/l

8.2 Exposure controls

Personal protective equipment

Eye/face protection
Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses

Skin protection
This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).
Full contact
Material: butyl-rubber
Minimum layer thickness: 0.7 mm
Break through time: 480 min

Material tested:Butoject® (KCL 898)

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).
Splash contact
Material: Chloroprene
Minimum layer thickness: 0.65 mm
Break through time: 10 min
Material tested:KCL 720 Camapren®

Body Protection
Flame retardant antistatic protective clothing.

Respiratory protection
Recommended Filter type: Filter A (acc. to DIN 3181) for vapours of organic compounds

The entrepeneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Control of environmental exposure
Do not let product enter drains. Risk of explosion.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a)	Appearance	Form: clear, liquid Color: colorless
b)	Odor	ether-like
c)	Odor Threshold	39.8 ppm
d)	pH	No data available
e)	Melting point/freezing point	Melting point/range: -48 °C - lit.
f)	Initial boiling point and boiling range	81 - 82 °C - lit.
g)	Flash point	2.0 °C - closed cup
h)	Evaporation rate	5.8
i)	Flammability (solid, gas)	No data available
j)	Upper/lower flammability or explosive limits	Upper explosion limit: 16 %(V) Lower explosion limit: 4.4 %(V)
k)	Vapor pressure	98.64 hPa at 20 °C
l)	Vapor density	1.42 - (Air = 1.0)
m)	Relative density	No data available
n)	Water solubility	1,000 g/l at 25 °C completely soluble

o)	Partition coefficient: n-octanol/water	log Pow: -0.54 at 25 °C - Bioaccumulation is not expected.
p)	Autoignition temperature	524.0 °C
q)	Decomposition temperature	No data available
r)	Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: 0.350 Pas at 20.00 °C
s)	Explosive properties	No data available
t)	Oxidizing properties	No data available

9.2 Other safety information

Surface tension	29.0 mN/m at 20.0 °C
Relative vapor density	1.42 - (Air = 1.0)

SECTION 10: Stability and reactivity

10.1 Reactivity
Vapors may form explosive mixture with air.

10.2 Chemical stability
The product is chemically stable under standard ambient conditions (room temperature) .

10.3 Possibility of hazardous reactions
Violent reactions possible with:
Strong bases
strong reducing agents
Risk of explosion with:
nitrates
perchlorates
perchloric acid
conc. sulfuric acid
with
Heat.
Risk of ignition or formation of inflammable gases or vapours with:
Oxidizing agents
Nitric acid
nitrogen dioxide
with
Catalyst
Generates dangerous gases or fumes in contact with:
Acids

10.4 Conditions to avoid
Warming.

10.5 Incompatible materials
rubber, various plastics

10.6 Hazardous decomposition products
In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity
LD50 Oral - Mouse - male and female - 617 mg/kg
(OECD Test Guideline 401)
LC50 Inhalation - Mouse - male and female - 4 h - 6.022 mg/l
(OECD Test Guideline 403)
Acute toxicity estimate Dermal - 1,500 mg/kg
(Expert judgment)

Skin corrosion/irritation
Skin - Rabbit
Result: No skin irritation - 4 h
(OECD Test Guideline 404)

Serious eye damage/eye irritation
Eyes - Rabbit
Result: Causes serious eye irritation.
(OECD Test Guideline 405)
Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Respiratory or skin sensitization
Buehler Test - Guinea pig
Result: negative
(OECD Test Guideline 406)

Germ cell mutagenicity
Ames test
S. typhimurium
Result: negative
Remarks:
(ECHA)
In vitro mammalian cell gene mutation test
Chinese hamster ovary cells
Result: negative
Mutagenicity (mammal cell test): chromosome aberration.
Chinese hamster ovary cells
Result: Positive results were obtained in some in vitro tests.
Remarks:
(National Toxicology Program)
sister chromatid exchange assay
Chinese hamster ovary cells
Result: negative
Remarks:
Sister chromatid exchange
Saccharomyces cerevisiae
Result: positive
Remarks:
Cytogenetic analysis
(ECHA)
In vitro mammalian cell gene mutation test
Mouse lymphoma test
Result: negative
OECD Test Guideline 474
Mouse - male and female

Result: negative

Carcinogenicity
No evidence of carcinogenicity in animal studies.

IARC: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity
Animal testing did not show any effects on fertility.

Specific target organ toxicity - single exposure
The substance or mixture is not classified as specific target organ toxicant, single exposure.

Specific target organ toxicity - repeated exposure
The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Aspiration hazard
No aspiration toxicity classification

11.2 Additional Information
RTECS: AL7700000

Treat as cyanide poisoning., Always have on hand a cyanide first-aid kit, together with proper instructions., The onset of symptoms is generally delayed pending conversion to cyanide., Nausea, Vomiting, Diarrhea, Headache, Dizziness, Rash, Cyanosis, excitement, depression, Drowsiness, impaired judgment, Lack of coordination, stupor, death
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish	flow-through test LC50 - Pimephales promelas (fathead minnow) - 1,640 mg/l - 96 h Remarks: (ECHA)
Toxicity to algae	static test NOEC - Phaeodactylum tricornutum - 400 mg/l - 72 h (ISO 10253)
	static test ErC50 - Phaeodactylum tricornutum - 9,696 mg/l - 72 h (ISO 10253)
Toxicity to bacteria	

12.2 Persistence and degradability
Biodegradability: Result: 70 % - Readily biodegradable. (OECD Test Guideline 310)

12.3 Bioaccumulative potential
No bioaccumulation is to be expected (log Pow <= 4).

12.4 Mobility in soil
Not expected to adsorb on soil.

12.5 Results of PBT and vPvB assessment
This substance/mixture contains no components considered to be either persistent,

bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

Avoid release to the environment.

Stability in water	DT50 - > 9,999 d pH 7 at 25 °C Remarks: (calculated)Hydrolyzes slowly.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Waste material must be disposed of in accordance with the national and loc No mixing with other waste. Handle uncleaned containers like the product See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions. Notice Directive on waste 2008/98/EC.

SECTION 14: Transport information

14.1 UN number

ADR/RID: 1648 IMDG: 1648 IATA: 1648

14.2 UN proper shipping name

ADR/RID: ACETONITRILE
IMDG: ACETONITRILE
IATA: Acetonitrile

14.3 Transport hazard class(es)

ADR/RID: 3 IMDG: 3 IATA: 3

14.4 Packaging group

ADR/RID: II IMDG: II IATA: II

14.5 Environmental hazards

ADR/RID: no IMDG Marine pollutant: no IATA: no

14.6 Special precautions for user

No data available

SECTION 15: Regulatory information

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

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

National legislation

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.	: FLAMMABLE LIQUIDS

Other regulations
Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.

Take note of Dir 94/33/EC on the protection of young people at work.

15.2 Chemical Safety Assessment
A Chemical Safety Assessment has been carried out for this substance.

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3.

H225	Highly flammable liquid and vapor.
H302	Harmful if swallowed.
H302 + H312 + H332	Harmful if swallowed, in contact with skin or if inhaled.
H312	Harmful in contact with skin.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.

Further information
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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Annex: Exposure scenario

Identified uses:

Use: Industrial use

SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
SU 3, SU9: Industrial uses: Uses of substances as such or in preparations at industrial sites, Manufacture of fine chemicals
PC19: Intermediate **PC20:** Products such as pH-regulators, flocculants, precipitants, neutralization agents **PC35:** Washing and cleaning products (including solvent based products) **PC40:** Extraction agents
PROC1: Use in closed process, no likelihood of exposure **PROC2:** Use in closed, continuous process with occasional controlled exposure **PROC3:** Use in closed batch process (synthesis or formulation) **PROC4:** Use in batch and other process (synthesis) where opportunity for exposure arises
ERC1, ERC2, ERC4, ERC6a, ERC7: Manufacture of substances, Formulation of preparations, Industrial use of processing aids in processes and products, not becoming part of articles, Industrial use resulting in manufacture of another substance (use of intermediates), Industrial use of substances in closed systems

Use: Used as laboratory reagent.

SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
SU 3, SU 22, SU24: Industrial uses: Uses of substances as such or in preparations at industrial sites, Professional uses: Public domain (administration, education, entertainment, services, craftsmen), Scientific research and development
PC21: Laboratory chemicals **PC40:** Extraction agents
PROC3: Use in closed batch process (synthesis or formulation) **PROC15:** Use as laboratory reagent
ERC4, ERC6a, ERC7: Industrial use of processing aids in processes and products, not becoming part of articles, Industrial use resulting in manufacture of another substance (use of intermediates), Industrial use of substances in closed systems

Use: Formulation of preparations

SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
SU 10: Formulation [mixing] of preparations and/ or re-packaging (excluding alloys)
PC21: Laboratory chemicals **PC40:** Extraction agents
PROC3: Use in closed batch process (synthesis or formulation) **PROC5:** Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact) **PROC8b:** Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities **PROC9:** Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
ERC2: Formulation of preparations

Use: Industrial use of processing aids in processes and products, not becoming part of articles

SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
SU 3, SU9: Industrial uses: Uses of substances as such or in preparations at industrial sites, Manufacture of fine chemicals
PC20: Products such as pH-regulators, flocculants, precipitants, neutralization agents **PC35:** Washing and cleaning products (including solvent based products) **PC40:** Extraction agents
PROC1: Use in closed process, no likelihood of exposure **PROC2:** Use in closed, continuous process with occasional controlled exposure **PROC3:** Use in closed batch process (synthesis or formulation) **PROC4:** Use in batch and other process (synthesis) where opportunity for exposure arises
ERC4, ERC6b, ERC7: Industrial use of processing aids in processes and products, not becoming part of articles, Industrial use of reactive processing aids, Industrial use of substances in closed systems

1. Short title of Exposure Scenario: Industrial use

Main User Groups	:	**SU 3**
Sectors of end-use	:	**SU 3, SU9**
Chemical product category	:	**PC19, PC20, PC35, PC40**
Process categories	:	**PROC1, PROC2, PROC3, PROC4**
Environmental Release Categories	:	**ERC1, ERC2, ERC4, ERC6a, ERC7:**

2. Exposure scenario

2.1 Contributing scenario controlling environmental exposure for: ERC1, ERC2, ERC4, ERC6a, ERC7

Product characteristics

Concentration of the Substance in Mixture/Article	:	Covers the percentage of the substance in the product up to 100 % (unless stated differently).

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PC19, PC20, PC35, PC40

Product characteristics

Concentration of the Substance in Mixture/Article	:	Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use)	:	Medium volatile liquid

Frequency and duration of use

Application duration	:	> 4 h
Frequency of use	:	220 days/year

Other operational conditions affecting workers exposure

Outdoor / Indoor	:	Indoor

Technical conditions and measures
Provide adequate ventilation., Good work practice required.

Organizational measures to prevent /limit releases, dispersion and exposure
Ensure operatives are trained to minimize exposures.

Conditions and measures related to personal protection, hygiene and health evaluation
Use suitable eye protection and gloves., For personal protection see section 8.

3. Exposure estimation and reference to its source

Environment

A chemical safety assessment was performed according REACH Article 14(3), Annex I, sections 3 (Environmental Hazard assessment) and 4 (PBT/vPvB Assessment). As no hazard was identified, an exposure assessment and risk characterisation is not necessary (REACH Annex I section 5.0).

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value	Level of Exposure	RCR*
PROC1	ECETOC TRA	Without Local Exhaust Ventilation	Dermal	0.343 mg/kg BW/d	0.011
PROC1	ECETOC TRA	Without Local Exhaust Ventilation	Inhalation	0.012 mg/m³	0
PROC2	ECETOC TRA	Without Local Exhaust Ventilation	Inhalation	12 mg/m³	0.176
PROC2	ECETOC TRA	Without Local Exhaust Ventilation	Dermal	1.37 mg/kg BW/d	0.043
PROC3	ECETOC TRA	Without Local Exhaust Ventilation	Dermal	0.343 mg/kg BW/d	0.011
PROC3	ECETOC TRA	Without Local Exhaust Ventilation	Inhalation	42.8 mg/m³	0.629
PROC4	ECETOC TRA	Without Local Exhaust Ventilation	Dermal	6.86 mg/kg BW/d	0.213
PROC4	ECETOC TRA	Without Local Exhaust Ventilation	Inhalation	24 mg/m³	0.353

*Risk characterisation ratio

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Please refer to the following documents: ECHA Guidance on information requirements and chemical safety assessment Part D: Exposure Scenario Building, Part E: Risk Characterisation and Part G: Extending the SDS; VCI/Cefic REACH Practical Guides on

Exposure Assessment and Communications in the Supply Chain; CEFIC Guidance Specific Environmental Release Categories (SPERCs).

1. Short title of Exposure Scenario: Used as laboratory reagent.

Main User Groups	: **SU 22**
Sectors of end-use	: **SU 3, SU 22, SU24**
Chemical product category	: **PC21, PC40**
Process categories	: **PROC3, PROC15**
Environmental Release Categories	: **ERC4, ERC6a, ERC7:**

2. Exposure scenario

2.1 Contributing scenario controlling environmental exposure for: ERC4, ERC6a, ERC7

Product characteristics

Concentration of the Substance in Mixture/Article	: Covers the percentage of the substance in the product up to 100 % (unless stated differently).

2.2 Contributing scenario controlling worker exposure for: PROC3, PROC15, PC21, PC40

Product characteristics

Concentration of the Substance in Mixture/Article	: Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use)	: Medium volatile liquid

Frequency and duration of use

Application duration	: > 4 h
Frequency of use	: 220 days/year

Other operational conditions affecting workers exposure

Outdoor / Indoor	: Indoor

Technical conditions and measures

Use only in area provided with appropriate exhaust ventilation., Good work practice required.

Organizational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimize exposures.

Conditions and measures related to personal protection, hygiene and health evaluation

Use suitable eye protection and gloves., For personal protection see section 8.

3. Exposure estimation and reference to its source

Environment

A chemical safety assessment was performed according REACH Article 14(3), Annex I, sections 3 (Environmental Hazard assessment) and 4 (PBT/vPvB Assessment). As no hazard was identified, an exposure assessment and risk characterisation is not necessary (REACH Annex I section 5.0).

Workers

Contributin	Exposure	Specific	Value	Level of	RCR*

g Scenario	Assessment Method	conditions		Exposure	
PROC3	ECETOC TRA	Without Local Exhaust Ventilation	Dermal	0.343 mg/kg BW/d	0.011
PROC3	ECETOC TRA	Without Local Exhaust Ventilation	Inhalation	42.8 mg/m³	0.629
PROC15	ECETOC TRA	With Local Exhaust Ventilation	Dermal	0.0343 mg/kg BW/d	0.001
PROC15	ECETOC TRA	With Local Exhaust Ventilation	Inhalation	3.42 mg/m³	0.05

*Risk characterisation ratio

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Please refer to the following documents: ECHA Guidance on information requirements and chemical safety assessment Part D: Exposure Scenario Building, Part E: Risk Characterisation and Part G: Extending the SDS; VCI/Cefic REACH Practical Guides on Exposure Assessment and Communications in the Supply Chain; CEFIC Guidance Specific Environmental Release Categories (SPERCs).

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1. Short title of Exposure Scenario: Formulation of preparations

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Main User Groups : **SU 3**
Sectors of end-use : **SU 10**
Chemical product category : **PC21, PC40**
Process categories : **PROC3, PROC5, PROC8b, PROC9**
Environmental Release Categories : **ERC2:**

2. Exposure scenario

2.1 Contributing scenario controlling environmental exposure for: ERC2

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).

2.2 Contributing scenario controlling worker exposure for: PROC3, PROC5, PROC8b, PROC9, PC21, PC40

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use) : Medium volatile liquid

Frequency and duration of use

Application duration : > 4 h
Frequency of use : 220 days/year

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor

Technical conditions and measures
Use only in area provided with appropriate exhaust ventilation., Good work practice required.

Organizational measures to prevent /limit releases, dispersion and exposure
Ensure operatives are trained to minimize exposures.

Conditions and measures related to personal protection, hygiene and health evaluation
Use suitable eye protection and gloves., For personal protection see section 8.

3. Exposure estimation and reference to its source

Environment

A chemical safety assessment was performed according REACH Article 14(3), Annex I, sections 3 (Environmental Hazard assessment) and 4 (PBT/vPvB Assessment). As no hazard was identified, an exposure assessment and risk characterisation is not necessary (REACH Annex I section 5.0).

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value	Level of Exposure	RCR*
PROC3	ECETOC TRA	Without Local Exhaust Ventilation	Inhalation	42.8 mg/m³	0.629
PROC3	ECETOC TRA	Without Local Exhaust Ventilation	Dermal	0.343 mg/kg BW/d	0.011
PROC5	ECETOC TRA	With Local Exhaust Ventilation	Dermal	0.0686 mg/kg BW/d	0.002
PROC5	ECETOC TRA	With Local Exhaust Ventilation	Inhalation	8.55 mg/m³	0.126
PROC8b	ECETOC TRA	With Local Exhaust Ventilation	Inhalation	2.56 mg/m³	0.038
PROC8b	ECETOC TRA	With Local Exhaust Ventilation	Dermal	0.686 mg/kg BW/d	0.021
PROC9	ECETOC TRA	With Local Exhaust Ventilation	Dermal	0.686 mg/kg BW/d	0.021
PROC9	ECETOC TRA	With Local Exhaust Ventilation	Inhalation	34.2 mg/m³	0.503

*Risk characterisation ratio

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Please refer to the following documents: ECHA Guidance on information requirements and chemical safety assessment Part D: Exposure Scenario Building, Part E: Risk

Characterisation and Part G: Extending the SDS; VCI/Cefic REACH Practical Guides on Exposure Assessment and Communications in the Supply Chain; CEFIC Guidance Specific Environmental Release Categories (SPERCs).

1. Short title of Exposure Scenario: Industrial use of processing aids in processes and products, not becoming part of articles

Main User Groups	:	**SU 3**
Sectors of end-use	:	**SU 3, SU9**
Chemical product category	:	**PC20, PC35, PC40**
Process categories	:	**PROC1, PROC2, PROC3, PROC4**
Environmental Release Categories	:	**ERC4, ERC6b, ERC7:**

2. Exposure scenario

2.1 Contributing scenario controlling environmental exposure for: ERC4, ERC6b, ERC7

Product characteristics

Concentration of the Substance in Mixture/Article	:	Covers the percentage of the substance in the product up to 100 % (unless stated differently).

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PC20, PC35, PC40

Product characteristics

Concentration of the Substance in Mixture/Article	:	Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use)	:	Medium volatile liquid

Frequency and duration of use

Application duration	:	> 4 h
Frequency of use	:	220 days/year

Other operational conditions affecting workers exposure

Outdoor / Indoor	:	Indoor

Technical conditions and measures

Provide adequate ventilation., Good work practice required.

Organizational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimize exposures.

Conditions and measures related to personal protection, hygiene and health evaluation

Use suitable eye protection and gloves., For personal protection see section 8.

3. Exposure estimation and reference to its source

Environment

A chemical safety assessment was performed according REACH Article 14(3), Annex I, sections 3 (Environmental Hazard assessment) and 4 (PBT/vPvB Assessment). As no hazard was identified, an exposure assessment and risk characterisation is not necessary (REACH Annex I section 5.0).

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value	Level of Exposure	RCR*
PROC1	ECETOC TRA	Without Local Exhaust Ventilation	Dermal	0.343 mg/kg BW/d	0.011
PROC1	ECETOC TRA	Without Local Exhaust Ventilation	Inhalation	0.012 mg/m³	0
PROC2	ECETOC TRA	Without Local Exhaust Ventilation	Dermal	1.37 mg/kg BW/d	0.043
PROC2	ECETOC TRA	Without Local Exhaust Ventilation	Inhalation	12 mg/m³	0.176
PROC3	ECETOC TRA	Without Local Exhaust Ventilation	Inhalation	42.8 mg/m³	0.629
PROC3	ECETOC TRA	Without Local Exhaust Ventilation	Dermal	0.343 mg/kg BW/d	0.011
PROC4	ECETOC TRA	Without Local Exhaust Ventilation	Dermal	6.86 mg/kg BW/d	0.213
PROC4	ECETOC TRA	Without Local Exhaust Ventilation	Inhalation	24 mg/m³	0.353

*Risk characterisation ratio

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Please refer to the following documents: ECHA Guidance on information requirements and chemical safety assessment Part D: Exposure Scenario Building, Part E: Risk Characterisation and Part G: Extending the SDS; VCI/Cefic REACH Practical Guides on Exposure Assessment and Communications in the Supply Chain; CEFIC Guidance Specific Environmental Release Categories (SPERCs).