

## SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Version 6.1 Revision Date 13.02.2014

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

#### 1.1 Product identifiers

Product name : Acetonitrile

Product Number : 271004

Brand : Sigma-Aldrich

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 Company Ltd.  
The Old Brickyard  
NEW ROAD, GILLINGHAM  
Dorset  
SP8 4XT  
UNITED KINGDOM

Telephone : +44 (0)1747 833000

Fax : +44 (0)1747 833313

E-mail address : eurtechserv@sial.com

#### 1.4 Emergency telephone number

Emergency Phone # : +44 (0)1747 833100

### 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.

##### Classification according to EU Directives 67/548/EEC or 1999/45/EC

F	Highly flammable	R11
Xn	Harmful	R20/21/22
Xi	Irritant	R36

For the full text of the R-phrases 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 vapour.
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/sparks/open flames/hot surfaces. - No smoking.
P280	Wear protective gloves/ protective clothing.
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

### 2.3 Other hazards - none

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Synonyms	: Methyl cyanide ACN
Formula	: C <sub>2</sub> H <sub>3</sub> N
Molecular Weight	: 41.05 g/mol
CAS-No.	: 75-05-8
EC-No.	: 200-835-2
Index-No.	: 608-001-00-3
Registration number	: 01-2119471307-38-XXXX

#### Hazardous ingredients according to Regulation (EC) No 1272/2008

Component	Classification	Concentration
<b>Acetonitrile</b>		
CAS-No. 75-05-8	Flam. Liq. 2; Acute Tox. 4; Eye Irrit. 2; H225, H302 + H312 + H332, H319	<= 100 %
EC-No. 200-835-2		
Index-No. 608-001-00-3		
Registration number 01-2119471307-38-XXXX		

#### Hazardous ingredients according to Directive 1999/45/EC

Component	Classification	Concentration
<b>Acetonitrile</b>		
CAS-No. 75-05-8	F, Xn, R11 - R20/21/22 - R36	<= 100 %
EC-No. 200-835-2		
Index-No. 608-001-00-3		
Registration number 01-2119471307-38-XXXX		

For the full text of the H-Statements and R-Phrases mentioned in this Section, see Section 16

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

#### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

#### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

#### In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

**If swallowed**

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. 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

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**SECTION 5: Firefighting measures****5.1 Extinguishing media****Suitable extinguishing media**

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**5.2 Special hazards arising from the substance or mixture**

no data available

**5.3 Advice for firefighters**

Wear self contained breathing apparatus for fire fighting if necessary.

**5.4 Further information**

Use water spray to cool unopened containers.

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**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. For personal protection see section 8.

**6.2 Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

**6.3 Methods and materials for containment and cleaning up**

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

**6.4 Reference to other sections**

For disposal see section 13.

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**SECTION 7: Handling and storage****7.1 Precautions for safe handling**

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

For precautions see section 2.2.

**7.2 Conditions for safe storage, including any incompatibilities**

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Handle and store under inert gas.

**7.3 Specific end use(s)**

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

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**SECTION 8: Exposure controls/personal protection****8.1 Control parameters****Components with workplace control parameters**

Component	CAS-No.	Value	Control parameters	Basis
Acetonitrile	75-05-8	TWA	40 ppm 70 mg/m <sup>3</sup>	Europe. Indicative occupational exposure limit values
	Remarks	Identifies the possibility of significant uptake through the skin Indicative		
		STEL	60 ppm 102 mg/m <sup>3</sup>	UK. EH40 WEL - Workplace Exposure Limits
		TWA	40 ppm 68 mg/m <sup>3</sup>	UK. EH40 WEL - Workplace Exposure Limits

#### Derived No Effect Level (DNEL)

Application Area	Exposure routes	Health effect	Value
Workers	Inhalation	Acute local effects, Acute systemic effects	68 mg/m <sup>3</sup>
Workers	Skin contact	Long-term systemic effects	32.2mg/kg BW/d
Workers	Inhalation	Long-term local effects, Long-term systemic effects	68 mg/m <sup>3</sup>
Consumers	Inhalation	Acute local effects	220 mg/m <sup>3</sup>
Consumers	Inhalation	Acute systemic effects	22 mg/m <sup>3</sup>
Consumers	Inhalation	Long-term systemic effects	4.8 mg/m <sup>3</sup>

#### Predicted No Effect Concentration (PNEC)

Compartment	Value
Water	10 mg/l
Soil	2.41 mg/kg
Marine 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

### Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

### Personal protective equipment

#### Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

#### Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Full contact

Material: butyl-rubber

Minimum layer thickness: 0.3 mm

Break through time: 480 min

Material tested: Butoject® (KCL 897 / Aldrich Z677647, Size M)

Splash contact

Material: butyl-rubber

Minimum layer thickness: 0.3 mm

Break through time: 480 min

Material tested: Butoject® (KCL 897 / Aldrich Z677647, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de,  
test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

### Body Protection

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

### Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

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## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

- |                                                 |                                                                                        |
|-------------------------------------------------|----------------------------------------------------------------------------------------|
| a) Appearance                                   | Form: clear, liquid<br>Colour: colourless                                              |
| b) Odour                                        | ether-like                                                                             |
| c) Odour Threshold                              | no data available                                                                      |
| d) pH                                           | no data available                                                                      |
| e) Melting point/freezing point                 | Melting point/range: -48 °C                                                            |
| f) Initial boiling point and boiling range      | 81 - 82 °C                                                                             |
| 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)<br>Lower explosion limit: 3 %(V)                        |
| k) Vapour pressure                              | 73.18 hPa at 15 °C<br>121.44 hPa at 25 °C<br>413.23 hPa at 55 °C<br>98.64 hPa at 20 °C |
| l) Vapour density                               | 1.42 - (Air = 1.0)                                                                     |
| m) Relative density                             | 0.786 g/mL at 25 °C                                                                    |
| n) Water solubility                             | completely soluble                                                                     |
| o) Partition coefficient: n-octanol/water       | log Pow: -0.54 at 25 °C                                                                |
| p) Auto-ignition                                | 524.0 °C                                                                               |

temperature

- |                              |                                                          |
|------------------------------|----------------------------------------------------------|
| q) Decomposition temperature | no data available                                        |
| r) Viscosity                 | no data available                                        |
| s) Explosive properties      | Not explosive                                            |
| t) Oxidizing properties      | The substance or mixture is not classified as oxidizing. |

## 9.2 Other safety information

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

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

no data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

no data available

### 10.4 Conditions to avoid

Heat, flames and sparks. Extremes of temperature and direct sunlight.

### 10.5 Incompatible materials

acids, Bases, Oxidizing agents, Reducing agents, Alkali metals

### 10.6 Hazardous decomposition products

Other decomposition products - no data available

In the event of fire: see section 5

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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

LD50 Oral - rat - male - 1,320 - 6,690 mg/kg

LC50 Inhalation - mouse - 4 h - 3587 ppm  
(OECD Test Guideline 403)

LC50 Inhalation - rat - 4 h - 26.8 mg/l

LD50 Dermal - rabbit - male and female - > 2,000 mg/kg  
(OECD Test Guideline 402)

#### Skin corrosion/irritation

Skin - rabbit

Result: No skin irritation  
(OECD Test Guideline 404)

#### Serious eye damage/eye irritation

Eyes - rabbit

Result: Irritating to eyes.  
(OECD Test Guideline 405)

#### Respiratory or skin sensitisation

Buehler Test - guinea pig

Did not cause sensitisation on laboratory animals.  
(OECD Test Guideline 406)

### **Germ cell mutagenicity**

Hamster

ovary

Result: negative

Mutation in mammalian somatic cells.

Ames test

*S. typhimurium*

Result: Not mutagenic in Ames Test.

Hamster

ovary

Result: Equivocal evidence.

Sister chromatid exchange

Mutagenicity (micronucleus test)

mouse

Result: Positive results were obtained in some in vivo tests.

### **Carcinogenicity**

No evidence of carcinogenicity in animal studies (when indicated)

IARC: No component 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

### **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, Diarrhoea, Headache, Dizziness, Rash, Cyanosis, excitement, depression, Drowsiness, impaired judgment, Lack of coordination, stupor, death

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## **SECTION 12: Ecological information**

### **12.1 Toxicity**

Toxicity to fish LC50 - *Pimephales promelas* (fathead minnow) - 1,640.00 mg/l - 96 h

NOEC - *Oryzias latipes* - 102 mg/l - 21 d

Toxicity to daphnia and other aquatic invertebrates EC50 - *Daphnia magna* (Water flea) - 3,600 mg/l - 48 h (OECD Test Guideline 202)

NOEC - *Daphnia magna* (Water flea) - 160 mg/l - 21 d

### **12.2 Persistence and degradability**

Biodegradability Result: 84 % - Readily biodegradable. (OECD Test Guideline 301C)

### **12.3 Bioaccumulative potential**

no data available

#### 12.4 Mobility in soil

Not expected to adsorb on soil.

#### 12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

#### 12.6 Other adverse effects

Avoid release to the environment.

Stability in water

Remarks: Hydrolyses slowly.

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### SECTION 13: Disposal considerations

#### 13.1 Waste treatment methods

##### Product

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.

##### Contaminated packaging

Dispose of as unused product.

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### 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

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### SECTION 15: Regulatory information

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

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

no data available

#### 15.2 Chemical Safety Assessment

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

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### SECTION 16: Other information

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

Acute Tox.

Acute toxicity

Eye Irrit.

Eye irritation

Flam. Liq.

Flammable liquids

H225

Highly flammable liquid and vapour.

H302	Harmful if swallowed.
H302 + H312 + H332	Harmful if swallowed, in contact with skin or if inhaled
H312	Harmful in contact with skin.

**Full text of R-phrases referred to under sections 2 and 3**

F	Highly flammable
Xn	Harmful
R11	Highly flammable.
R20/21/22	Harmful by inhalation, in contact with skin and if swallowed.
R36	Irritating to eyes.

**Further information**

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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](http://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

<b>SU 3:</b> Industrial uses: Uses of substances as such or in preparations at industrial sites
<b>SU 3, SU9:</b> Industrial uses: Uses of substances as such or in preparations at industrial sites, Manufacture of fine chemicals
<b>PC19:</b> Intermediate <b>PC20:</b> Products such as ph-regulators, flocculants, pre-cipitants, neutralization agents <b>PC35:</b> Washing and cleaning products (including solvent based products) <b>PC40:</b> Extraction agents
<b>PROC1:</b> Use in closed process, no likelihood of exposure <b>PROC2:</b> Use in closed, continuous process with occasional controlled exposure <b>PROC3:</b> Use in closed batch process (synthesis or formulation) <b>PROC4:</b> Use in batch and other process (synthesis) where opportunity for exposure arises
<b>ERC1, ERC2, ERC4, ERC6a, ERC7:</b> 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.

<b>SU 22:</b> Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
<b>SU 3, SU 22, SU24:</b> 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
<b>PC21:</b> Laboratory chemicals <b>PC40:</b> Extraction agents
<b>PROC3:</b> Use in closed batch process (synthesis or formulation) <b>PROC15:</b> Use as laboratory reagent
<b>ERC4, ERC6a, ERC7:</b> 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

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

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

<b>SU 3:</b> Industrial uses: Uses of substances as such or in preparations at industrial sites
<b>SU 3, SU9:</b> Industrial uses: Uses of substances as such or in preparations at industrial sites, Manufacture of fine chemicals
<b>PC20:</b> Products such as ph-regulators, flocculants, pre-cipitants, neutralization agents <b>PC35:</b> Washing and cleaning products (including solvent based products) <b>PC40:</b> Extraction agents
<b>PROC1:</b> Use in closed process, no likelihood of exposure <b>PROC2:</b> Use in closed, continuous process with occasional controlled exposure <b>PROC3:</b> Use in closed batch process (synthesis or formulation) <b>PROC4:</b> Use in batch and other process (synthesis) where opportunity for exposure arises
<b>ERC4, ERC6b, ERC7:</b> 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

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## 1. Short title of Exposure Scenario: Industrial use

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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.

#### Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise 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	Dermal	1.37 mg/kg BW/d	0.043

		Ventilation			
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.

###### Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise 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	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).

### 1. Short title of Exposure Scenario: Formulation of preparations

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.

**Organisational measures to prevent /limit releases, dispersion and exposure**

Ensure operatives are trained to minimise 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.

#### Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise 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	Dermal	6.86 mg/kg BW/d	0.213

		Ventilation			
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).

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