

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 Version 2 Revision Date 04.12.2018

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

1.1 Product identifiers

Product name : Acetone

Product Number : 5582

Brand : Better Equipped

Index-No. : 606-001-00-8

REACH No. : A registration number is not available for this substance as the substance or its uses are exempted from registration or the annual tonnage does not require a registration.

CAS-No. : 67-64-1

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

Identified uses : Laboratory chemicals, Manufacture of substances

Uses advised against : Not for sale to the general public

1.3 Details of the supplier of the safety data sheet

Company : Better Equipped,
Wrenbury Business Park,
Wrenbury Road,
Wrenbury,
Nantwich, Cheshire,
CW5 8EB, UK

Telephone +44 (0) 800 9707142

Fax +44 (0) 800 066 4443

E-mail address sales@betterequipped.co.uk

1.4 Emergency telephone number

Emergency Phone # +44 (0)1270 781238

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

Eye irritation (Category 2), H319

Specific target organ toxicity - single exposure (Category 3), Central nervous system, H336

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 vapour.

H319

Causes serious eye irritation.

H336

May cause drowsiness or dizziness.

Precautionary statement(s) P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280	Wear eye protection/ face protection.
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.
P337 + P313	If eye irritation persists: Get medical advice/ attention.
P403 + P235	Store in a well-ventilated place. Keep cool.
Supplemental Hazard information (EU) EUH066	Repeated exposure may cause skin dryness or cracking.

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

Formula	:	C ₃ H ₆ O
Molecular weight	:	58.08 g/mol
CAS-No.	:	67-64-1
EC-No.	:	200-662-2
Index-No.	:	606-001-00-8
Registration number	:	01-2119471330-49-XXXX

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

Component	Classification	Concentration
Acetone		
CAS-No.	67-64-1	Flam. Liq. 2; Eye Irrit. 2; STOT SE 3; H225, H319, H336 Concentration limits: >= 20 %: STOT SE 3, H336;
EC-No.	200-662-2	
Index-No.	606-001-00-8	
Registration number	01-2119471330-49-XXXX	

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

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

Remove contaminated clothing. 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

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

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

Unsuitable extinguishing media

High volume water jet

5.2 Special hazards arising from the substance or mixture

Highly flammable. Explosive mixtures with air may even form at room temperature. Beware of reignition.

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

Use water spray to cool unopened containers.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- 6.1.1 For non-emergency personnel

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.

- 6.1.2 For emergency responders

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.

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.

7.1.2 Advice on general occupational hygiene:

- No smoking.
- Do not eat or drink.
- Wash hands after use.
- Remove contaminated clothing.

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.

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

Components with workplace control parameters

Component	CAS-No.	ValueForm of exposure	Control parameters	Basis
Acetone	67-64-1	TWA	500 ppm 1,210 mg/m ³	Europe. Commission Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values
	Remarks	Indicative		
		TWA	500 ppm 1,210 mg/m ³	UK. EH40 WEL - Workplace Exposure Limits
		STEL	1,500 ppm 3,620 mg/m ³	UK. EH40 WEL - Workplace Exposure Limits

8.1.2 Information on currently recommended monitoring procedures

For currently recommended monitoring procedures, see HSE series 'Methods for the Determination of Hazardous Substances' (MDHS)

Derived No Effect Level (DNEL)

Application Area	Exposure routes	Health effect	Value
Workers	Skin contact	Long-term systemic effects	186mg/kg BW/d
Consumers	Ingestion	Long-term systemic effects	62mg/kg BW/d
Consumers	Skin contact	Long-term systemic effects	62mg/kg BW/d
Workers	Inhalation	Acute systemic effects	2420 mg/m ³
Workers	Inhalation	Long-term systemic effects	1210 mg/m ³
Consumers	Inhalation	Long-term systemic effects	200 mg/m ³

Predicted No Effect Concentration (PNEC)

Compartment	Value
Soil	33.3 mg/kg
Marine water	1.06 mg/l
Fresh water	10.6 mg/l
Marine sediment	3.04 mg/kg
Fresh water sediment	30.4 mg/kg
Onsite sewage treatment plant	100 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. Use Local exhaust ventilation (LEV).

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

Impervious clothing, 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 AXBEK (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.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance	Form: liquid, clear Colour: colourless
b) Odour	No data available
c) Odour Threshold	No data available
d) pH	No data available
e) Melting point/freezing point	Melting point/range: -94 °C
f) Initial boiling point and boiling range	56 °C at 1,013 hPa
g) Flash point	-17.0 °C - closed cup
h) Evaporation rate	No data available
i) Flammability (solid, gas)	No data available
j) Upper/lower flammability or explosive limits	Upper explosion limit: 13 %(V) Lower explosion limit: 2 %(V)
k) Vapour pressure	533.3 hPa at 39.5 °C, 245.3 hPa at 20.0 °C
l) Vapour density	No data available
m) Relative density	0.791 g/mL at 25 °C
n) Water solubility	completely miscible
o) Partition coefficient: n-octanol/water	log Pow: -0.24
p) Auto-ignition temperature	465.0 °C
q) Decomposition temperature	No data available

- r) Viscosity No data available
- s) Explosive properties No data available
- t) Oxidizing properties No data available

9.2 Other safety information Surface tension 23.2 mN/m at 20.0 °C

SECTION 10: Stability and reactivity

10.1 Reactivity

No dangerous reaction under normal processing

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

Vapours may form explosive mixture with air.

10.4 Conditions to avoid

Heat, flames and sparks.

10.5 Incompatible materials

Bases, Oxidizing agents, Reducing agents, Acetone reacts violently with phosphorous oxychloride.

10.6 Hazardous decomposition products

Other decomposition products - No data available

Hazardous decomposition products formed under fire conditions. - Carbon oxides

In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - 5,800 mg/kg

Remarks: Behavioral:Altered sleep time (including change in righting reflex). Behavioral:Tremor.

Behavioral:Headache. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

LC50 Inhalation - Rat - 8 h - 50,100 mg/m³

Remarks: Drowsiness Dizziness Unconsciousness

LD50 Dermal - Guinea pig - 7,426 mg/kg

Skin corrosion/irritation

Skin - Rabbit

Result: Mild skin irritation - 24 h

Serious eye damage/eye irritation

Eyes - Rabbit

Result: Eye irritation - 24 h

Respiratory or skin sensitisation

- Guinea pig

Result: Does not cause skin sensitisation.

Germ cell mutagenicity

No data available

Carcinogenicity

This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

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

No data available

Specific target organ toxicity - single exposure

May cause drowsiness or dizziness.

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Additional Information

RTECS: AL3150000

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Kidney - Irregularities - Based on Human Evidence

Skin - Dermatitis - Based on Human Evidence

SECTION 12: Ecological information**12.1 Toxicity**

Toxicity to fish

LC50 - Oncorhynchus mykiss (rainbow trout) - 5,540 mg/l – 96

Toxicity to daphnia and other aquatic invertebrates

LC50 - Daphnia magna (Water flea) - 8,800 mg/l - 48 h

Toxicity to algae

Remarks: No data available

12.2 Persistence and degradability

Biodegradability Result: 91 % - Readily biodegradable.
(OECD Test Guideline 301B)

12.3 Bioaccumulative potential

Does not bioaccumulate.

12.4 Mobility in soil

No data available

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

No data available

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. Unused product may be returned and reused, in addition to disposal. Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging

Dispose of as unused product.

SECTION 14: Transport information**14.1 UN number**

ADR/RID: 1090

IMDG: 1090

IATA: 1090

14.2 UN proper shipping name

ADR/RID: ACETONE

IMDG: ACETONE

IATA: Acetone

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

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

N/A

SECTION 15: Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

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

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.**

EUH066	Repeated exposure may cause skin dryness or cracking.
H225	Highly flammable liquid and vapour.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.

Revisions made since previous version of data sheet:

The following sections of this data sheet have been updated:

1.2, 4.1, 5.1, 5.2, 6.1, 7.1, 8.1, 8.2, 10.3, 13.1, 14.7, 15.1, 16

We strongly recommend reading the entire data sheet for this chemical in preparation ahead of use.

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. Better Equipped and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product.

Annex: Exposure scenario

Identified uses:

Use: Manufacturing and on-site 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
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 PROC8a: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities 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) PROC15: Use as laboratory reagent
ERC1: Manufacture of substances

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)
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 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) PROC15: Use as laboratory reagent
ERC2: Formulation of preparations

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
PROC10: Roller application or brushing PROC15: Use as laboratory reagent
ERC4, ERC8a: Industrial use of processing aids in processes and products, not becoming part of articles, Wide dispersive indoor use of processing aids in open systems

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 PC21: Laboratory chemicals
PROC3: Use in closed batch process (synthesis or formulation) PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact) PROC6: Calendaring operations PROC7: Industrial spraying

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)
PROC10: Roller application or brushing
PROC13: Treatment of articles by dipping and pouring
PROC15: Use as laboratory reagent
ERC4, ERC6b, ERC1: Industrial use of processing aids in processes and products, not becoming part of articles, Industrial use of reactive processing aids, Manufacture of substances

1. Short title of Exposure Scenario: Manufacturing and on-site use

Main User Groups	: SU 3
Sectors of end-use	: SU 3, SU9
Chemical product category	: PC19
Process categories	: PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC9, PROC15
Environmental Release Categories	: ERC1:

2. Exposure scenario

2.1 Contributing scenario controlling environmental exposure for: ERC1

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, PROC8a, PROC8b, PROC9, PROC15, PC19

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) : High 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	Dermal	0.03 mg/kg	0

		Exhaust Ventilation		BW/d	
PROC1	ECETOC TRA	Without Local Exhaust Ventilation	Inhalation	0.02 mg/m ³	0
PROC2	ECETOC TRA	Without Local Exhaust Ventilation	Inhalation	0.02 mg/m ³	0
PROC2	ECETOC TRA	Without Local Exhaust Ventilation	Dermal	0.03 mg/kg BW/d	0
PROC3	ECETOC TRA	Without Local Exhaust Ventilation	Inhalation	84.58 mg/m ³	0.07
PROC3	ECETOC TRA	Without Local Exhaust Ventilation	Dermal	0.69 mg/kg BW/d	0.004
PROC4	ECETOC TRA	Without Local Exhaust Ventilation	Dermal	6.86 mg/kg BW/d	0.037
PROC4	ECETOC TRA	Without Local Exhaust Ventilation	Inhalation	169.17 mg/m ³	0.14
PROC8a	ECETOC TRA	Without Local Exhaust Ventilation	Dermal	13.71 mg/kg BW/d	0.074
PROC8a	ECETOC TRA	Without Local Exhaust Ventilation	Inhalation	422.92 mg/m ³	0.35
PROC8b	ECETOC TRA	Without Local Exhaust Ventilation	Dermal	13.71 mg/kg BW/d	0.074
PROC8b	ECETOC TRA	Without Local Exhaust Ventilation	Inhalation	253.75 mg/m ³	0.21
PROC9	ECETOC TRA	Without Local Exhaust Ventilation	Inhalation	338.33 mg/m ³	0.28
PROC9	ECETOC TRA	Without Local Exhaust Ventilation	Dermal	6.86 mg/kg BW/d	0.037
PROC15	ECETOC TRA	Without Local Exhaust Ventilation	Inhalation	84.58 mg/m ³	0.07
PROC15	ECETOC TRA	Without Local Exhaust Ventilation	Dermal	0.34 mg/kg BW/d	0.002

*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
Process categories	: PROC2, PROC3, PROC4, PROC5, PROC8b, PROC9, PROC15
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: PROC2, PROC3, PROC4, PROC5, PROC8b, PROC9, PROC15

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) : High 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*
PROC2	ECETOC TRA	Without Local Exhaust Ventilation	Dermal	0.03 mg/kg BW/d	0
PROC2	ECETOC TRA	Without Local Exhaust Ventilation	Inhalation	0.02 mg/m ³	0
PROC3	ECETOC TRA	Without Local Exhaust Ventilation	Dermal	0.69 mg/kg BW/d	0.004
PROC3	ECETOC TRA	Without Local Exhaust	Inhalation	84.58 mg/m ³	0.07

		Ventilation			
PROC4	ECETOC TRA	Without Local Exhaust Ventilation	Inhalation	169.17 mg/m ³	0.14
PROC4	ECETOC TRA	Without Local Exhaust Ventilation	Dermal	6.86 mg/kg BW/d	0.037
PROC5	ECETOC TRA	Without Local Exhaust Ventilation	Inhalation	422.92 mg/m ³	0.35
PROC5	ECETOC TRA	Without Local Exhaust Ventilation	Dermal	13.71 mg/kg BW/d	0.074
PROC8b	ECETOC TRA	Without Local Exhaust Ventilation	Inhalation	253.75 mg/m ³	0.21
PROC8b	ECETOC TRA	Without Local Exhaust Ventilation	Dermal	13.71 mg/kg BW/d	0.074
PROC9	ECETOC TRA	Without Local Exhaust Ventilation	Dermal	6.86 mg/kg BW/d	0.037
PROC9	ECETOC TRA	Without Local Exhaust Ventilation	Inhalation	338.33 mg/m ³	0.28
PROC15	ECETOC TRA	Without Local Exhaust Ventilation	Inhalation	84.58 mg/m ³	0.07
PROC15	ECETOC TRA	Without Local Exhaust Ventilation	Dermal	0.34 mg/kg BW/d	0.002

*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
 Process categories : PROC10, PROC15
 Environmental Release Categories : ERC4, ERC8a:

2. Exposure scenario

2.1 Contributing scenario controlling environmental exposure for: ERC4, ERC8a

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: PROC10, PROC15, PC21

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) : High 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*
PROC10	ECETOC TRA	Without Local Exhaust Ventilation	Dermal	27.43 mg/kg BW/d	0.147
PROC10	ECETOC TRA	Without Local Exhaust Ventilation	Inhalation	422.92 mg/m ³	0.35
PROC15	ECETOC TRA	Without Local Exhaust Ventilation	Inhalation	84.58 mg/m ³	0.07
PROC15	ECETOC TRA	Without Local Exhaust Ventilation	Dermal	0.34 mg/kg BW/d	0.002

*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, PC21
 Process categories : PROC3, PROC4, PROC5, PROC6, PROC7, PROC8b, PROC9, PROC10, PROC13, PROC15
 Environmental Release Categories : ERC4, ERC6b, ERC1:

2. Exposure scenario

2.1 Contributing scenario controlling environmental exposure for: ERC4, ERC6b, ERC1

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, PROC4, PROC5, PROC6, PROC7, PROC8b, PROC9, PROC10, PROC13, PROC15, PC20, PC21

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) : High 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*
PROC3	ECETOC TRA	Without Local Exhaust Ventilation	Inhalation	84.58 mg/m ³	0.07
PROC3	ECETOC TRA	Without Local Exhaust Ventilation	Dermal	0.69 mg/kg BW/d	0.004
PROC4	ECETOC TRA	Without Local Exhaust Ventilation	Inhalation	169.17 mg/m ³	0.14
PROC4	ECETOC TRA	Without Local Exhaust Ventilation	Dermal	6.86 mg/kg BW/d	0.037
PROC5	ECETOC TRA	Without Local Exhaust Ventilation	Dermal	13.71 mg/kg BW/d	0.074
PROC5	ECETOC TRA	Without Local Exhaust Ventilation	Inhalation	422.92 mg/m ³	0.35
PROC6	ECETOC TRA	Without Local Exhaust Ventilation	Dermal	27.43 mg/kg BW/d	0.147
PROC6	ECETOC TRA	Without Local	Inhalation	422.92 mg/m ³	0.35

		Exhaust Ventilation			
PROC7	ECETOC TRA	Without Local Exhaust Ventilation	Dermal	42.86 mg/kg BW/d	0.23
PROC7	ECETOC TRA	Without Local Exhaust Ventilation	Inhalation	845.83 mg/m ³	0.699
PROC8b	ECETOC TRA	Without Local Exhaust Ventilation	Inhalation	253.75 mg/m ³	0.21
PROC8b	ECETOC TRA	Without Local Exhaust Ventilation	Dermal	13.71 mg/kg BW/d	0.074
PROC9	ECETOC TRA	Without Local Exhaust Ventilation	Dermal	6.86 mg/kg BW/d	0.037
PROC9	ECETOC TRA	Without Local Exhaust Ventilation	Inhalation	338.33 mg/m ³	0.28
PROC10	ECETOC TRA	Without Local Exhaust Ventilation	Inhalation	422.92 mg/m ³	0.35
PROC10	ECETOC TRA	Without Local Exhaust Ventilation	Dermal	27.43 mg/kg BW/d	0.147
PROC13	ECETOC TRA	Without Local Exhaust Ventilation	Inhalation	422.92 mg/m ³	0.35
PROC13	ECETOC TRA	Without Local Exhaust Ventilation	Dermal	13.71 mg/kg BW/d	0.074
PROC15	ECETOC TRA	Without Local Exhaust Ventilation	Inhalation	84.58 mg/m ³	0.07
PROC15	ECETOC TRA	Without Local Exhaust Ventilation	Dermal	0.34 mg/kg BW/d	0.002
PROC15	ECETOC TRA	Without Local Exhaust Ventilation	Inhalation	84.58 mg/m ³	0.07
PROC15	ECETOC TRA	Without Local Exhaust Ventilation	Dermal	0.34 mg/kg BW/d	0.002

*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).