

FASSAFILL EPOXY CLEANER

Safety Data Sheet dated 02/10/2025 version 5

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

Mixture identification:

Trade name: FASSAFILL EPOXY CLEANER

Trade code: 1292

UFI: C8QX-QSHM-J6ER-99YM

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

Recommended use: Detergent for removing epoxy filler residues; For professional use only

Uses advised against: Not intended for consumer use

1.3. Details of the supplier of the safety data sheet

Company: FASSA Srl

Via Lazzaris, 3 - 31027 Spresiano (TV) - Italy

Tel. +39 0422 7222

Fax +39 0422 887509

Imported in the UK:

FASSA UK LTD

Ashchurch Business Centre,

Alexandra Way, Ashchurch, Tewkesbury GL20 8TD- UK

Tel. +44 (0) 1684.212272

Responsible: laboratorio.spresiano@fassabortolo.it

1.4. Emergency telephone number

NHS 111

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Regulation (EC) n. 1272/2008 (CLP)**

Eye Irrit. 2 Causes serious eye irritation.

Skin Sens. 1 May cause an allergic skin reaction.

Adverse physicochemical, human health and environmental effects:

No other hazards

2.2. Label elements**Regulation (EC) No 1272/2008 (CLP):****Hazard pictograms and Signal Word**

Warning

Hazard statements

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

Precautionary statements

P261 Avoid breathing fume/gas/mist/vapours/spray.

P280 Wear protective gloves and eye/face protection.

P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

P337+P313 If eye irritation persists: Get medical advice/attention.

P362+P364 Take off contaminated clothing and wash it before reuse.

P501 Dispose of contents/container in accordance with national regulation.

Contains:

benzyl alcohol

Special provisions according to Annex XVII of REACH and subsequent amendments:

None.

The product has been classified according to Regulation (EC) No 1272/2008 (CLP) as amended by UK CLP Regulation, UK SI 2019/720 and UK SI 2020/1567.

2.3. Other hazards

Constituents (Reg. EC 648/2004): 5 - 15% Anionic surfactants

No PBT, vPvB or endocrine disruptor substances present in concentration $\geq 0.1\%$.

No other hazards

SECTION 3: Composition/information on ingredients

3.1. Substances

N.A.

3.2. Mixtures

Mixture identification: FASSAFILL EPOXY CLEANER

Hazardous components within the meaning of the CLP regulation and related classification:

Qty	Name	Ident. Numb.	Classification	Registration Number:
$\geq 15 - < 20 \%$	benzyl alcohol	CAS:100-51-6 EC:202-859-9 Index:603-057-00-5	Acute Tox. 4, H302 Eye Irrit. 2, H319 Skin Sens. 1B, H317 Acute Toxicity Estimate: ATE - Oral: 1200mg/kg bw	01-2119492630-38-xxxx
$\geq 7 - < 10 \%$	1-methoxy-2-propanol	CAS:107-98-2 EC:203-539-1 Index:603-064-00-3	Flam. Liq. 3, H226; STOT SE 3, H336	01-2119457435-35-xxxx
$\geq 1 - < 2.5 \%$	2,2'-butyliminodiethanol	CAS:102-79-4 EC:203-055-0	Eye Dam. 1, H318	01-2120124239-60-xxxx

Classifications according to Regulation (EC) No 1272/2008 (CLP) as amended by UK CLP Regulation, UK SI 2019/720 and UK SI 2020/1567.

SECTION 4: First aid measures

4.1. Description of first aid measures

In case of skin contact:

Remove contaminated clothing immediately and dispose off safely.

Areas of the body that have - or are only even suspected of having - come into contact with the product must be rinsed immediately with plenty of running water and possibly with soap.

Wash thoroughly the body (shower or bath).

In case of eyes contact:

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.

Protect uninjured eye.

In case of Ingestion:

Do not induce vomiting, get medical attention showing the SDS and label hazardous.

In case of Inhalation:

Remove casualty to fresh air and keep warm and at rest.

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

The symptoms and effects are as expected from the hazards as shown in section 2.

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

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

Product is not flammable.

Extinguishing media which must not be used for safety reasons:

None in particular.

5.2. Special hazards arising from the substance or mixture

Burning produces heavy smoke.

In the event of fire and/or explosion do not breathe fumes.

5.3. Advice for firefighters

Use suitable breathing apparatus .

Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

Move undamaged containers from immediate hazard area if it can be done safely.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non emergency personnel:

Wear personal protection equipment.

Remove persons to safety.

See protective measures under point 7 and 8.

For emergency responders:

Wear personal protection equipment.

6.2. Environmental precautions

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.

In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

6.3. Methods and material for containment and cleaning up

Material suitable for collection: inert absorbent material (e.g. sand, vermiculite)

After the product has been recovered, rinse the area and materials involved with water.

Retain contaminated washing water and dispose it.

6.4. Reference to other sections

See also section 8 and 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid contact with skin and eyes, inhalation of vapours and mists.

Don't use empty container before they have been cleaned.

Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.

Advice on general occupational hygiene:

Contaminated clothing should be changed before entering eating areas.

Do not eat or drink while working.

See also section 8 for recommended protective equipment.

7.2. Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a cool, well-ventilated place, away from heat.

Keep away from food, drink and feed.

Incompatible materials:

See chapter 10.5

Instructions as regards storage premises:

Adequately ventilated premises.

Protect from frost.

7.3. Specific end use(s)

Recommendation(s)

See chapter 1.2

Industrial sector specific solutions:

None in particular

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Community Occupational Exposure Limits (OEL)

benzyl alcohol

CAS: 100-51-6 OEL Type MAK GERMANY Long Term: 22 mg/m³ - 5 ppm; Short Term: 44 mg/m³ - 10 ppm
Notes: Inhalable fraction and vapour, Skin

OEL Type TLV BULGARIA Long Term: 5 mg/m³

OEL Type TLV CZECHIA Long Term: 40 mg/m³ - 8.88 ppm; Short Term: 80 mg/m³ - 17.76 ppm

OEL Type SUVA SWITZERLAN
D Long Term: 22 mg/m³ - 5 ppm

OEL Type AGW GERMANY Long Term: 22 mg/m³ - 5 ppm; Short Term: 44 mg/m³ - 10 ppm
Notes: Inhalable fraction and vapour

OEL Type	NDS	POLAND	Long Term: 240 mg/m3
OEL Type	MV	SLOVENIA	Long Term: 22 mg/m3 - 5 ppm; Short Term: 44 mg/m3 - 10 ppm Notes: Skin
OEL Type	IPRV	LITHUANIA	Long Term: 5 mg/m3 Notes: Skin

1-methoxy-2-propanol

CAS: 107-98-2	OEL Type	ACGIH	Long Term: 50 ppm; Short Term: 100 ppm Notes: A4 - Eye and URT irr
	OEL Type	EU	Long Term: 375 mg/m3 - 100 ppm; Short Term: 563 mg/m3 - 150 ppm Notes: Skin
	OEL Type	MAK AUSTRIA	Long Term: 187 mg/m3 - 50 ppm; Short Term: 187 mg/m3 - 50 ppm Notes: Skin
	OEL Type	MAK GERMANY	Long Term: 370 mg/m3 - 100 ppm; Short Term: 740 mg/m3 - 200 ppm
	OEL Type	VLEP BELGIUM	Long Term: 184 mg/m3 - 50 ppm; Short Term: 369 mg/m3 - 100 ppm Notes: Additional indication "D" means that the absorption of the agent through the skin, mucous membranes or eyes is an important part of the total exposure. It can be the result of both direct contact and its presence in the air.
	OEL Type	VLEP FRANCE	Long Term: 188 mg/m3 - 50 ppm; Short Term: 375 mg/m3 - 100 ppm Notes: Skin
	OEL Type	VLEP ITALY	Long Term: 375 mg/m3 - 100 ppm; Short Term: 568 mg/m3 - 150 ppm Notes: Skin
	OEL Type	VLEP ROMANIA	Long Term: 375 mg/m3 - 100 ppm; Short Term: 568 mg/m3 - 150 ppm
	OEL Type	TLV BULGARIA	Long Term: 375 mg/m3 - 100 ppm; Short Term: 568 mg/m3 - 150 ppm Notes: Skin
	OEL Type	TLV CZECHIA	Long Term: 270 mg/m3 - 72.09 ppm; Short Term: 550 mg/m3 - 146.85 ppm Notes: Skin
	OEL Type	VLA SPAIN	Long Term: 375 mg/m3 - 100 ppm; Short Term: 568 mg/m3 - 150 ppm Notes: Skin
	OEL Type	ÁK HUNGARY	Long Term: 375 mg/m3; Short Term: 568 mg/m3 Notes: Skin
	OEL Type	MAC NETHERLAND S	Long Term: 375 mg/m3 - 100 ppm; Short Term: 563 mg/m3 - 150 ppm Notes: Skin
	OEL Type	VLE PORTUGAL	Long Term: 375 mg/m3 - 100 ppm; Short Term: 568 mg/m3 - 150 ppm
	OEL Type	SUVA SWITZERLAND D	Long Term: 360 mg/m3 - 100 ppm; Short Term: 720 mg/m3 - 200 ppm
	OEL Type	WEL U.K.	Long Term: 375 mg/m3 - 100 ppm; Short Term: 560 mg/m3 - 150 ppm Notes: Skin
	OEL Type	GVI CROATIA	Long Term: 375 mg/m3 - 100 ppm; Short Term: 568 mg/m3 - 150 ppm
	OEL Type	AGW GERMANY	Long Term: 370 mg/m3 - 100 ppm; Short Term: 740 mg/m3 - 200 ppm
	OEL Type	NDS POLAND	Long Term: 180 mg/m3; Short Term: 360 mg/m3 Notes: Skin
	OEL Type	MV SLOVENIA	Long Term: 375 mg/m3 - 100 ppm; Short Term: 568 mg/m3 - 150 ppm Notes: Skin
	OEL Type	IPRV LITHUANIA	Long Term: 190 mg/m3 - 50 ppm; Short Term: 300 mg/m3 - 75 ppm

Predicted No Effect Concentration (PNEC) values

benzyl alcohol

CAS: 100-51-6	Exposure Route: Fresh Water; PNEC Limit: 1 mg/l
	Exposure Route: Marine water; PNEC Limit: 0.1 mg/l
	Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 39 mg/l
	Exposure Route: Freshwater sediments; PNEC Limit: 5.27 mg/kg
	Exposure Route: Marine water sediments; PNEC Limit: 0.527 mg/kg
	Exposure Route: Soil; PNEC Limit: 0.456 mg/kg

1-methoxy-2-propanol

CAS: 107-98-2 Exposure Route: Marine water; PNEC Limit: 1 mg/l
Exposure Route: Fresh Water; PNEC Limit: 10 mg/l
Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 100 mg/l
Exposure Route: Marine water sediments; PNEC Limit: 5.2 mg/kg
Exposure Route: Freshwater sediments; PNEC Limit: 52.3 mg/kg
Exposure Route: Soil (agricultural); PNEC Limit: 4.59 mg/kg

2,2'-butyliminodiethanol

CAS: 102-79-4 Exposure Route: Fresh Water; PNEC Limit: 0.44 mg/l
Exposure Route: Marine water; PNEC Limit: 0.044 mg/l
Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 7.27 mg/l
Exposure Route: Freshwater sediments; PNEC Limit: 2.024 mg/kg
Exposure Route: Marine water sediments; PNEC Limit: 0.202 mg/kg
Exposure Route: Soil; PNEC Limit: 0.146 mg/kg

Derived No Effect Level (DNEL) values

benzyl alcohol

CAS: 100-51-6 Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects
Worker Professional: 22 mg/m³; Consumer: 5.4 mg/m³

Exposure Route: Human Inhalation; Exposure Frequency: Short Term, systemic effects
Worker Professional: 110 mg/m³; Consumer: 27 mg/m³

Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects
Worker Professional: 8 mg/kg; Consumer: 4 mg/kg

Exposure Route: Human Dermal; Exposure Frequency: Short Term, systemic effects
Worker Professional: 40 mg/kg; Consumer: 20 mg/kg

Exposure Route: Human Oral; Exposure Frequency: Long Term, systemic effects
Consumer: 4 mg/kg

Exposure Route: Human Oral; Exposure Frequency: Short Term, systemic effects
Consumer: 20 mg/kg

1-methoxy-2-propanol

CAS: 107-98-2 Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects
Worker Professional: 369 mg/m³; Consumer: 43.9 mg/m³

Exposure Route: Human Inhalation; Exposure Frequency: Short Term, local effects
Worker Professional: 553.5 mg/m³

Exposure Route: Human Inhalation; Exposure Frequency: Short Term, systemic effects
Worker Professional: 553.5 mg/m³

Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects
Worker Professional: 183 mg/kg; Consumer: 78 mg/kg

Exposure Route: Human Oral; Exposure Frequency: Long Term, systemic effects
Consumer: 3.3 mg/kg

2,2'-butyliminodiethanol

CAS: 102-79-4 Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects
Worker: 1.58 mg/m³; Consumer: 0.281 mg/m³

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, local effects
Worker: 1.14 mg/m³; Consumer: 0.34 mg/m³

Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects
Worker: 7 mg/kg; Consumer: 2.5 mg/kg

Exposure Route: Human Oral; Exposure Frequency: Long Term, systemic effects
Consumer: 0.25 mg/kg

8.2. Exposure controls

Provide adequate ventilation. Where reasonably practicable, this should be achieved by the use of local exhaust ventilation and good general extraction.

Eye protection:

Eye glasses with side protection (EN 16321).

Protection for skin:

Use suitable clothing that provides complete protection to the skin according to activity and exposure (EN 14605/EN 13982), e.g.

overall, apron, safety shoes, suitable clothing.

Protection for hands:

There is no material or combination of materials for gloves that can guarantee unlimited resistance to any individual chemical or combination of chemicals.

For prolonged or repeated handling, use chemical resistant gloves.

Suitable materials for safety gloves (EN 374/EN 16523); Butyl caoutchouc (butyl rubber): thickness ≥ 0.4 mm; permeation time ≥ 480 min. NBR (Nitril rubber): thickness ≥ 0.4 mm; permeation time ≥ 480 min

The choice of suitable gloves does not only depend on the material, but also on other quality characteristics that vary from one manufacturer to another and on the manner and times according to which the mixture is used.

Respiratory protection:

If workers are exposed to concentrations above the exposure limit they must use appropriate, certified respirators.

Combination filtering device (EN 14387): mask with filter A-P2.

Environmental exposure controls:

See point 6.2

Hygienic and Technical measures

See section 7.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical State: Liquid

Appearance: Liquid

Color: light yellow

Odour: Characteristic

Odour threshold: N.D.

Melting point/freezing point: N.D.

Boiling point or initial boiling point and boiling range: N.D.

Flammability: Non-flammable; ; Internal assessment

Lower and upper explosion limit: N.D.

Flash point: $> 93^{\circ}\text{C}$ (Internal assessment)

Auto-ignition temperature: N.D.

Decomposition temperature: N.D.

pH: $\geq 10.90 \leq 11.90$ (Internal method)

Kinematic viscosity: ≤ 20.5 mm²/s (40 °C)

Density and/or relative density: 1.01 ± 0.01 kg/l (Internal method)

Relative vapour density: N.D.

Vapour pressure: N.D.

Solubility in water: miscible in all ratio

Solubility in oil: No data available

Partition coefficient n-octanol/water (log value): N.A.

Particle characteristics:

Particle size: N.A.

9.2. Other information

Conductivity: N.D.

Explosive properties: N.D.

Oxidizing properties: N.D.

VOC content % in the product (2010/75/UE) 28.00

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions

10.2. Chemical stability

Stable under normal conditions

10.3. Possibility of hazardous reactions

None.

10.4. Conditions to avoid

Keep away from heat sources.

10.5. Incompatible materials

None in particular.

10.6. Hazardous decomposition products

No hazardous decomposition products when stored and handled correctly.

See chapter 5.2

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Information on hazard classes as defined in the retained Regulation (EC) No 1272/2008 (CLP) as amended by UK CLP Regulation, UK SI 2019/720 and UK SI 2020/1567.

Toxicological Information of the Preparation

a) acute toxicity	Not classified Based on available data, the classification criteria are not met
b) skin corrosion/irritation	Not classified Based on available data, the classification criteria are not met
c) serious eye damage/irritation	The product is classified: Eye Irrit. 2(H319)
d) respiratory or skin sensitisation	The product is classified: Skin Sens. 1(H317)
e) germ cell mutagenicity	Not classified Based on available data, the classification criteria are not met
f) carcinogenicity	Not classified Based on available data, the classification criteria are not met
g) reproductive toxicity	Not classified Based on available data, the classification criteria are not met
h) STOT-single exposure	Not classified Based on available data, the classification criteria are not met
i) STOT-repeated exposure	Not classified Based on available data, the classification criteria are not met
j) aspiration hazard	Not classified Based on available data, the classification criteria are not met

Toxicological information on main components of the mixture:

benzyl alcohol

CAS: 100-51-6 a) acute toxicity ATE - Oral: 1200 mg/kg bw
LD50 Inhalation Rat > 4178 mg/m³ 4h

1-methoxy-2-propanol

CAS: 107-98-2 a) acute toxicity LD50 Oral Rat 4016 mg/kg
LD50 Skin Rat > 2000 mg/kg
LC50 Inhalation Vapour Rat > 7000 ppm 6h

2,2'-butyliminodiethanol

CAS: 102-79-4 a) acute toxicity LD50 Oral Rat 4800 mg/kg
LD50 Skin Rabbit > 2000 mg/kg

11.2 Information on other hazards

Endocrine disrupting properties:

No endocrine disruptor substances present in concentration \geq 0.1%

SECTION 12: Ecological information

Adopt good working practices, so that the product is not released into the environment.

12.1. Toxicity

Eco-Toxicological Information:

List of Eco-Toxicological properties of the product

Not classified for environmental hazards.

No data available for the product

List of Eco-Toxicological properties of the components

benzyl alcohol

CAS: 100-51-6 a) Aquatic acute toxicity: LC50 Fish 460 mg/l 96h
a) Aquatic acute toxicity: EC50 Daphnia 230 mg/l 48h
a) Aquatic acute toxicity: EC50 Algae 770 mg/l 72h
b) Aquatic chronic toxicity: NOEC Daphnia 51 mg/l 21d

1-methoxy-2-propanol

CAS: 107-98-2 a) Aquatic acute toxicity: LC50 Fish 6812 mg/l 96h

a) Aquatic acute toxicity: EC50 Daphnia 23300 mg/l 48h

a) Aquatic acute toxicity: EC50 Algae > 1000 mg/l 7d

2,2'-butyliminodiethanol

CAS: 102-79-4 a) Aquatic acute toxicity: LC50 Fish > 316 mg/l 96h

a) Aquatic acute toxicity: EC50 Daphnia > 100 mg/l 48h

a) Aquatic acute toxicity: ErC50 Algae 100 mg/l 72h

b) Aquatic chronic toxicity: NOEC Daphnia 4.4 mg/l 21d

12.2. Persistence and degradability

benzyl alcohol

CAS: 100-51-6 Readily biodegradable

1-methoxy-2-propanol

CAS: 107-98-2 Readily biodegradable

12.3. Bioaccumulative potential

N.A.

12.4. Mobility in soil

N.A.

12.5. Results of PBT and vPvB assessment

No PBT or vPvB substances present in concentration $\geq 0.1\%$

12.6 Endocrine disrupting properties

No endocrine disruptor substances present in concentration $\geq 0.1\%$

12.7 Other adverse effects

N.A.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Recover if possible. In so doing, comply with the local and national regulations currently in force.

Do not allow it to enter drains or watercourses.

Dispose of containers contaminated by the product in accordance with local or national legal provisions.

Once the product has expired, it must be disposed of in accordance with current legislation.

SECTION 14: Transport information

Not classified as dangerous in the meaning of transport regulations.

14.1. UN number or ID number

N/A

14.2. UN proper shipping name

ADR-Shipping Name: N/A

IATA-Shipping Name: N/A

IMDG-Shipping Name: N/A

14.3. Transport hazard class(es)

ADR-Class: N/A

IATA-Class: N/A

IMDG-Class: N/A

14.4. Packing group

ADR-Packing Group: N/A

IATA-Packing group: N/A

IMDG-Packing group: N/A

14.5. Environmental hazards

Marine pollutant: No

Environmental Pollutant: No

IMDG-EMS: N/A

14.6. Special precautions for user

Road and Rail (ADR-RID):

ADR exempt:

ADR-Label: N/A

ADR - Hazard identification number: N/A

ADR-Special Provisions: N/A

ADR-Transport category (Tunnel restriction code):

Air (IATA):

IATA-Passenger Aircraft: N/A

IATA-Cargo Aircraft: N/A

IATA-Label: N/A

IATA-Subsidiary hazards: N/A

IATA-Erg: N/A

IATA-Special Provisions: N/A

Sea (IMDG):

IMDG-Stowage and handling: N/A

IMDG-Segregation: N/A

IMDG-Subsidiary hazards: N/A

IMDG-Special Provisions: N/A

14.7. Maritime transport in bulk according to IMO instruments

N.A.

SECTION 15: Regulatory information

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

Dir. 98/24/EC (Risks related to chemical agents at work)

Dir. 2000/39/EC (Occupational exposure limit values)

Directive 2010/75/EU

Regulation (EC) n. 1907/2006 (REACH)

Regulation (EC) n. 1272/2008 (CLP)

Regulation (EC) n. 790/2009 (ATP 1 CLP) and (EU) n. 758/2013

Regulation (EU) n. 2020/878

Regulation (EU) n. 286/2011 (ATP 2 CLP)

Regulation (EU) n. 618/2012 (ATP 3 CLP)

Regulation (EU) n. 487/2013 (ATP 4 CLP)

Regulation (EU) n. 944/2013 (ATP 5 CLP)

Regulation (EU) n. 605/2014 (ATP 6 CLP)

Regulation (EU) n. 2015/1221 (ATP 7 CLP)

Regulation (EU) n. 2016/918 (ATP 8 CLP)

Regulation (EU) n. 2016/1179 (ATP 9 CLP)

Regulation (EU) n. 2017/776 (ATP 10 CLP)

Regulation (EU) n. 2018/669 (ATP 11 CLP)

Regulation (EU) n. 2018/1480 (ATP 13 CLP)

Regulation (EU) n. 2019/521 (ATP 12 CLP)

Regulation (EU) n. 2020/217 (ATP 14 CLP)

Regulation (EU) n. 2020/1182 (ATP 15 CLP)

Regulation (EU) n. 2021/643 (ATP 16 CLP)

Regulation (EU) n. 2021/849 (ATP 17 CLP)

Regulation (EU) n. 2022/692 (ATP 18 CLP)

Regulation (EU) n. 2023/707

Regulation (EU) n. 2023/1434 (ATP 19 CLP)

Regulation (EU) n. 2023/1435 (ATP 20 CLP)

Regulation (EU) n. 2024/197 (ATP 21 CLP)

Restrictions related to the product or the substances contained according to Annex XVII Regulation (EC) 1907/2006 (REACH) and subsequent modifications:

Restrictions related to the product: 3

Restrictions related to the substances contained: 30 (CAS 1589-47-5), 40, 75

Provisions related to directive EU 2012/18 (Seveso III):

None

Regulation (EU) No 649/2012 (PIC regulation)

No substances listed

German Water Hazard Class.

Class 1: slightly hazardous for water.

SVHC Substances:

On the basis of available data, the product does not contain any SVHC in percentage $\geq 0.1\%$.

Relevant EU provisions transposed through retained EU legislation:

UK REACH List of restrictions (Annex XVII);

UK REACH Candidate list of substances of very high concern (SVHC) for authorisation;
UK REACH List of substances subject to authorisation (Annex XIV);
Export and import of hazardous chemicals - Prior informed consent (PIC regulation).

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out for the mixture.

SECTION 16: Other information

Code	Description
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.

Code	Hazard class and hazard category	Description
2.6/3	Flam. Liq. 3	Flammable liquid, Category 3
3.1/4/Oral	Acute Tox. 4	Acute toxicity (oral), Category 4
3.3/1	Eye Dam. 1	Serious eye damage, Category 1
3.3/2	Eye Irrit. 2	Eye irritation, Category 2
3.4.2/1	Skin Sens. 1	Skin Sensitisation, Category 1
3.4.2/1B	Skin Sens. 1B	Skin Sensitisation, Category 1B
3.8/3	STOT SE 3	Specific target organ toxicity — single exposure, Category 3

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Classification according to Regulation (EC) Nr. 1272/2008	Classification procedure
Eye Irrit. 2, H319	Calculation method
Skin Sens. 1, H317	Calculation method

This document was prepared by a competent person who has received appropriate training.

Main bibliographic sources:

ECDIN - Environmental Chemicals Data and Information Network - Joint Research Centre, Commission of the European Communities
SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition - Van Nostrand Reinold
Safety data sheets of raw materials suppliers.

The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality.

It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This MSDS cancels and replaces any preceding release.

Legend to abbreviations and acronyms used in the safety data sheet:

ACGIH: American Conference of Governmental Industrial Hygienists
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
ATE: Acute Toxicity Estimate
ATEmix: Acute toxicity Estimate (Mixtures)
BEI: Biological Exposure Index
CAS: Chemical Abstracts Service (division of the American Chemical Society).
CAV: Poison Center
CE: European Community
CLP: Classification, Labeling, Packaging.
CMR: Carcinogenic, Mutagenic and Reprotoxic
COV: Volatile Organic Compound
CSA: Chemical Safety Assessment
CSR: Chemical Safety Report
DNEL: Derived No Effect Level.
EC50: Half Maximal Effective Concentration
ECHA: European Chemicals Agency
EINECS: European Inventory of Existing Commercial Chemical Substances.
ES: Exposure Scenario
GefStoffVO: Ordinance on Hazardous Substances, Germany.
GHS: Globally Harmonized System of Classification and Labeling of Chemicals.

IARC: International Agency for Research on Cancer
IATA: International Air Transport Association.
IC50: half maximal inhibitory concentration
IMDG: International Maritime Code for Dangerous Goods.
LC50: Lethal concentration, for 50 percent of test population.
LD50: Lethal dose, for 50 percent of test population.
LDLo: Leathal Dose Low
N.A.: Not Applicable
N/A: Not Applicable
N/D: Not defined/ Not available
N.D.: Not available
NIOSH: National Institute for Occupational Safety and Health
NOAEL: No Observed Adverse Effect Level
OSHA: Occupational Safety and Health Administration
PBT: Persistent, Bioaccumulative and Toxic
PGK: Packaging Instruction
PNEC: Predicted No Effect Concentration.
PSG: Passengers
RID: Regulation Concerning the International Transport of Dangerous Goods by Rail.
STEL: Short Term Exposure limit.
STOT: Specific Target Organ Toxicity.
TLV: Threshold Limiting Value.
TLV-TWA: Threshold Limit Value for the Time Weighted Average 8 hour day. (ACGIH Standard).
vPvB: Very Persistent, Very Bioaccumulative.
WGK: German Water Hazard Class.

Paragraphs modified from the previous revision:

- SECTION 2: Hazards identification
- SECTION 3: Composition/information on ingredients
- SECTION 8: Exposure controls/personal protection
- SECTION 9: Physical and chemical properties
- SECTION 11: Toxicological information
- SECTION 12: Ecological information
- SECTION 16: Other information

Benzyl alcohol

Substance identification
 Chemical Name: Benzyl alcohol
 CAS number: 100-51-6
 EC number: 202-859-9
 Date - Version: 10/02/2025

INDUSTRIAL USE

Adhesives, sealants , Coatings and Paints, Thinners, paint removers , Additives, fillers, plasters, modeling clay , Additives, fillers, plasters, modeling clay , Non-metallic surface treatment products , Inks and toners

1 TITLES SECTION

Use at industrial sites

Environmental Release Category: ERC4 Use of non-reactive processing aid at industrial site (no inclusion in article)

Process category: PROC5, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC12, PROC13, PROC14, PROC23, PROC24, PROC25

Process category (by-products): PC1, PC3, PC9a, PC9b, PC14, PC15, PC20, PC32

2 CONDITIONS OF USE AFFECTING EXPOSURE

2.1 Environmental exposure control: Use of non-reactive processing aid at industrial site (no inclusion in article) ERC4

Daily amount per site: <4.995 T

Annual amount per site: <99.9 T

Issue days per year: 300

Conditions and measures related to sewage treatment plant

STP Type: Municipal wastewater treatment plant

STP sludge treatment: Controlled application of sewage sludge on agricultural land

STP effluent: 2000 m³/d

Other conditions concerning environmental exposure

Water flow on the receiving surface: 18000 m³/d

Local fresh water dilution factor: 10

Local seawater dilution factor: 100

2.2 Worker Exposure Control: PROC5, PROC8a, PROC9, PROC10, PROC13

Worker Exposure Control: Covers concentrations up to 100%.

Physical form of the product: Liquid.

Vapour pressure: 25.95 pa (40 °C)

Amounts used, frequency and duration of use (or useful life)

Duration: Covers use up to 8 h/day

Measures and technical-organizational conditions

Product causes serious eye damage Exposure to the substance should therefore be minimised through appropriate risk management measures. Regarding general risk management measures, operating conditions and the personal protective equipment to be adopted when handling the substance or mixture, see section "Measures for the management of general risks applicable to all activities" in this exposure context. It is assumed that the activities are undertaken using adequate equipment that is properly maintained by trained personnel working under supervision.

Local exhaust ventilation: Inhalation - minimum yield of 90%

Conditions and measures for personal protection, hygiene and health assessment

Wear protective clothing as described in section 8.

Wear suitable gloves tested to EN374.

Use suitable eye protection.

Cutaneous - minimum efficiency of 90%

Other conditions affecting worker exposure

Internal use

Maximum process temperature: 40°C

Good general ventilation (1 to 3 air changes per hour).

2.3 Worker Exposure Control: PROC7

Worker Exposure Control: Covers concentrations up to 60%.

Physical form of the product: Liquid.

Vapour pressure: <7 pa (40 °C)

Amounts used, frequency and duration of use (or useful life)

Duration: Covers use up to 8 h/day

Measures and technical-organizational conditions

Product causes serious eye damage Exposure to the substance should therefore be minimised through appropriate risk management measures. Regarding general risk management measures, operating conditions and the personal protective equipment to be adopted when handling the substance or mixture, see section "Measures for the management of general risks applicable to all activities" in this exposure context. It is assumed that the activities are undertaken using adequate equipment that is properly maintained by trained personnel working under supervision.

Conditions and measures for personal protection, hygiene and health assessment

Wear protective clothing as described in section 8.

Wear suitable gloves tested to EN374.

Use suitable eye protection.

Cutaneous - minimum efficiency of 90%

Other conditions affecting worker exposure

Internal use

Maximum process temperature: 20°C

Good general ventilation (1 to 3 air changes per hour).

2.4 Worker Exposure Control: PROC8b

Worker Exposure Control: Covers concentrations up to 100%.

Physical form of the product: Liquid.

Vapour pressure: 25.95 pa (40 °C)

Amounts used, frequency and duration of use (or useful life)

Duration: Covers use up to 8 h/day

Measures and technical-organizational conditions

Product causes serious eye damage Exposure to the substance should therefore be minimised through appropriate risk management measures. Regarding general risk management measures, operating conditions and the personal protective equipment to be adopted when handling the substance or mixture, see section "Measures for the management of general risks applicable to all activities" in this exposure context. It is assumed that the activities are undertaken using adequate equipment that is properly maintained by trained personnel working under supervision.

Local exhaust ventilation: Inhalation - minimum yield of 95%

Conditions and measures for personal protection, hygiene and health assessment

Wear protective clothing as described in section 8.

Wear suitable gloves tested to EN374.

Use suitable eye protection.

Cutaneous - minimum efficiency of 90%

Other conditions affecting worker exposure

Internal use

Maximum process temperature: 40°C

Good general ventilation (1 to 3 air changes per hour).

2.5 Worker Exposure Control: PROC12

Worker Exposure Control: Covers concentrations up to 100%.

Physical form of the product: Liquid.

Vapour pressure: 25.95 pa (40 °C)

Amounts used, frequency and duration of use (or useful life)

Duration: Covers use up to 8 h/day

Measures and technical-organizational conditions

Product causes serious eye damage Exposure to the substance should therefore be minimised through appropriate risk management measures. Regarding general risk management measures, operating conditions and the personal protective equipment to be adopted when handling the substance or mixture, see section "Measures for the management of general risks applicable to all activities" in this exposure context. It is assumed that the activities are undertaken using adequate equipment that is properly maintained by trained personnel working under supervision.

Conditions and measures for personal protection, hygiene and health assessment

Wear protective clothing as described in section 8.

Wear suitable gloves tested to EN374.

Use suitable eye protection.

Other conditions affecting worker exposure

Internal use

Maximum process temperature: 40°C

Good general ventilation (1 to 3 air changes per hour).

2.6 Worker Exposure Control: PROC14

Worker Exposure Control: Covers concentrations up to 100%.

Physical form of the product: Liquid.

Vapour pressure: 25.95 pa (40 °C)

Amounts used, frequency and duration of use (or useful life)

Duration: Covers use up to 8 h/day

Measures and technical-organizational conditions

Product causes serious eye damage Exposure to the substance should therefore be minimised through appropriate risk management measures. Regarding general risk management measures, operating conditions and the personal protective equipment to be adopted when handling the substance or mixture, see section "Measures for the management of general risks applicable to all activities" in this exposure context. It is assumed that the activities are undertaken using adequate equipment that is properly maintained by trained personnel working under supervision.

Local exhaust ventilation: Inhalation - minimum yield of 90%

Conditions and measures for personal protection, hygiene and health assessment

Wear protective clothing as described in section 8.

Wear suitable gloves tested to EN374.

Use suitable eye protection.

Other conditions affecting worker exposure

Internal use

Maximum process temperature: 40°C

Good general ventilation (1 to 3 air changes per hour).

2.7 Worker Exposure Control: PROC23, PROC24, PROC25

Worker Exposure Control: Covers concentrations up to 100%.

Physical form of the product: Liquid.

Vapour pressure: 25.95 pa (40 °C)

Amounts used, frequency and duration of use (or useful life)

Duration: Covers use up to 8 h/day

Measures and technical-organizational conditions

Product causes serious eye damage Exposure to the substance should therefore be minimised through appropriate risk management measures. Regarding general risk management measures, operating conditions and the personal protective equipment to be adopted when handling the substance or mixture, see section "Measures for the management of general risks applicable to all activities" in this exposure context. It is assumed that the activities are undertaken using adequate equipment that is properly maintained by trained personnel working under supervision.

Conditions and measures for personal protection, hygiene and health assessment

Wear protective clothing as described in section 8.

Wear suitable gloves tested to EN374.

Use suitable eye protection.

Other conditions affecting worker exposure

Internal use

Good general ventilation (1 to 3 air changes per hour).

3 EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE

3.1 Environmental release and exposure: ERC4

Route release	Release	Release estimation method
water	2%	ESVOC SPERC 4.3a.v1
air	9.8%	ESVOC SPERC 4.3a.v1
Soil	0.0%	ESVOC SPERC 4.3a.v1
Protection target	Estimated exposure	RCR
Fresh water	0.634 mg/l (EUSES 2.1.2)	0.634
Sediment (freshwater)	3.28 mg/kg dry weight (EUSES 2.1.2)	0.622
Sea water	0.063 mg/l (EUSES 2.1.2)	0.634
Sediment (marine water)	0.328 mg/kg dry weight (EUSES 2.1.2)	0.622
Sewage treatment plant	6.311 mg/l (EUSES 2.1.2)	0.162
Soil	0.21 mg/kg dry weight (EUSES 2.1.2)	0.416
Man through the environment - inhalation	0.0075 mg/m ³ (EUSES 2.1.2)	<0.01
Man through the environment - oral	0.013b mg/kg bw/day (EUSES 2.1.2)	<0.01

3.2 Worker exposure: PROC5, PROC8a, PROC9, PROC10, PROC13

Route of exposure	Health effect	Exposure indicator	Estimated exposure (Cheras 3.4)	RCR
PROC5 inhalation	systemic	long term	2.253 mg/m ³	0.102
PROC5 inhalation	systemic	short term	9.011 mg/m ³	0.082
PROC5 dermal	systemic	long term	1,371 mg/kg bw/day	0.171
PROC5 dermal	systemic	short term	1,371 mg/kg bw/day	0.034
PROC8a inhalation	systemic	long term	4.506 mg/m ³	0.205
PROC8a inhalation	systemic	short term	18.02 mg/m ³	0.164
PROC8a dermal	systemic	long term	1,371 mg/kg bw/day	0.171
PROC8a dermal	systemic	short term	1,371 mg/kg bw/day	0.034
PROC9 inhalation	systemic	long term	2.253 mg/m ³	0.102
PROC9 inhalation	systemic	short term	9.011 mg/m ³	0.082
PROC9 dermal	systemic	long term	0.686 mg/kg bw/day	0.086
PROC9 dermal	systemic	short term	0.686 mg/kg bw/day	0.017
PROC10 inhalation	systemic	long term	4.506 mg/m ³	0.205
PROC10 inhalation	systemic	short term	18.02 mg/m ³	0.164
PROC10 dermal	systemic	long term	2.743 mg/kg bw/day	0.069
PROC10 dermal	systemic	short term	2.743 mg/kg bw/day	0.343
PROC13 inhalation	systemic	long term	4.506 mg/m ³	0.205
PROC13 inhalation	systemic	short term	18.02 mg/m ³	0.164
PROC13 dermal	systemic	long term	1,371 mg/kg bw/day	0.171
PROC13 dermal	systemic	short term	1,371 mg/kg bw/day	0.034

3.3 Worker exposure: PROC7

Routes of exposure	Health effect	Exposure indicator	Estimated exposure (ART v1.5)	RCR
inhalation	systemic	long term	6 mg/m ³	0.273
inhalation	systemic	short term	12mg/m ³	0.109
dermal	systemic	long term	4,286 mg/kg bw/day	0.536
dermal	systemic	short term	4,286 mg/kg bw/day	0.107

3.4 Worker exposure: PROC8

Routes of exposure	Health effect	Exposure indicator	Estimated exposure (Chesar 3.4)	RCR
inhalation	systemic	long term	1.126 mg/m ³	0.051
inhalation	systemic	short term	4.506 mg/m ³	0.041
dermal	systemic	long term	1,371 mg/kg bw/day	0.171
dermal	systemic	short term	1,371 mg/kg bw/day	0.034

3.5 Worker exposure: PROC12

Routes of exposure	Health effect	Exposure indicator	Estimated exposure (Chesar 3.4)	RCR
inhalation	systemic	long term	9.011 mg/m ³	0.41
inhalation	systemic	short term	36.04 mg/m ³	0.328
dermal	systemic	long term	0.34 mg/kg bw/day	0.043
dermal	systemic	short term	0.34 mg/kg bw/day	<0.01

3.6 Worker exposure: PROC14

Routes of exposure	Health effect	Exposure indicator	Estimated exposure (Chesar 3.4)	RCR
inhalation	systemic	long term	2.253 mg/m ³	0.102
inhalation	systemic	short term	9.011 mg/m ³	0.082
dermal	systemic	long term	3.43 mg/kg bw/day	0.429
dermal	systemic	short term	3.43 mg/kg bw/day	0.086

3.7 Worker exposure: PROC23, PROC24, PROC25

Routes of exposure	Health effect	Exposure indicator	Estimated exposure (Chesar 3.4)	RCR
inhalation	systemic	long term	1 mg/m ³	0.045
inhalation	systemic	short term	4 mg/m ³	0.036
PROC23 dermal	systemic	long term	0.141 mg/kg bw/day	0.018
PROC23 dermal	systemic	short term	0.141 mg/kg bw/day	<0.01
PROC24 dermal	systemic	long term	2.83 mg/m ³	0.354
PROC24 dermal	systemic	short term	2.83 mg/m ³	0.071
PROC25 dermal	systemic	long term	0.283 mg/kg bw/day	0.035
PROC25 dermal	systemic	short term	0.283 mg/kg bw/day	<0.01

4 GUIDANCE TO DOWNSTREAM USER (DU) TO EVALUATE WHETHER HE/SHE WORKS INSIDE THE BOUNDARIES SET BY THE EXPOSURE SCENARIO

The downstream user (DU) works inside the boundaries set by the ES if either the proposed risk management measures as described above are met or the downstream user can demonstrate that his/her operational conditions and implemented risk management measures are adequate. This has to be done by showing that they limit the inhalation and dermal exposure to a level below the respective DNEL (given that the processes and activities in question are covered by the PROCs listed above) as given below.

2.6 Worker Exposure Control: PROC14

Worker Exposure Control: Covers concentrations up to 100%.

Physical form of the product: Liquid.

Vapour pressure: 25.95 pa (40 °C)

Amounts used, frequency and duration of use (or useful life)

Duration: Covers use up to 8 h/day

Measures and technical-organizational conditions

Product causes serious eye damage Exposure to the substance should therefore be minimised through appropriate risk management measures. Regarding general risk management measures, operating conditions and the personal protective equipment to be adopted when handling the substance or mixture, see section "Measures for the management of general risks applicable to all activities" in this exposure context. It is assumed that the activities are undertaken using adequate equipment that is properly maintained by trained personnel working under supervision.

Local exhaust ventilation: Inhalation - minimum yield of 90%

Conditions and measures for personal protection, hygiene and health assessment

Wear protective clothing as described in section 8.

Wear suitable gloves tested to EN374.

Use suitable eye protection.

Other conditions affecting worker exposure

Internal use

Maximum process temperature: 40°C

Good general ventilation (1 to 3 air changes per hour).

2.7 Worker Exposure Control: PROC23, PROC24, PROC25

Worker Exposure Control: Covers concentrations up to 100%.

Physical form of the product: Liquid.

Vapour pressure: 25.95 pa (40 °C)

Amounts used, frequency and duration of use (or useful life)

Duration: Covers use up to 8 h/day

Measures and technical-organizational conditions

Product causes serious eye damage Exposure to the substance should therefore be minimised through appropriate risk management measures. Regarding general risk management measures, operating conditions and the personal protective equipment to be adopted when handling the substance or mixture, see section "Measures for the management of general risks applicable to all activities" in this exposure context. It is assumed that the activities are undertaken using adequate equipment that is properly maintained by trained personnel working under supervision.

Conditions and measures for personal protection, hygiene and health assessment

Wear protective clothing as described in section 8.

Wear suitable gloves tested to EN374.

Use suitable eye protection.

Other conditions affecting worker exposure

Internal use

Good general ventilation (1 to 3 air changes per hour).

3 EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE

3.1 Environmental release and exposure: ERC4

Route release	Release	Release estimation method
water	2%	ESVOC SPERC 4.3a.v1
air	9.8%	ESVOC SPERC 4.3a.v1
Soil	0.0%	ESVOC SPERC 4.3a.v1
Protection target	Estimated exposure	RCR
Fresh water	0.634 mg/l (EUSES 2.1.2)	0.634
Sediment (freshwater)	3.28 mg/kg dry weight (EUSES 2.1.2)	0.622
Sea water	0.063 mg/l (EUSES 2.1.2)	0.634
Sediment (marine water)	0.328 mg/kg dry weight (EUSES 2.1.2)	0.622
Sewage treatment plant	6.311 mg/l (EUSES 2.1.2)	0.162
Soil	0.21 mg/kg dry weight (EUSES 2.1.2)	0.416
Man through the environment - inhalation	0.0075 mg/m ³ (EUSES 2.1.2)	<0.01
Man through the environment - oral	0.013b mg/kg bw/day (EUSES 2.1.2)	<0.01

3.6 Worker exposure: PROC14

Routes of exposure	Health effect	Exposure indicator	Estimated exposure (Chesar 3.4)	RCR
inhalation	systemic	long term	2.253 mg/m ³	0.102
inhalation	systemic	short term	9.011 mg/m ³	0.082
dermal	systemic	long term	3.43 mg/kg bw/day	0.429
dermal	systemic	short term	3.43 mg/kg bw/day	0.086

3.7 Worker exposure: PROC23, PROC24, PROC25

Routes of exposure	Health effect	Exposure indicator	Estimated exposure (Chesar 3.4)	RCR
inhalation	systemic	long term	1 mg/m ³	0.045
inhalation	systemic	short term	4 mg/m ³	0.036
PROC23 dermal	systemic	long term	0.141 mg/kg bw/day	0.018
PROC23 dermal	systemic	short term	0.141 mg/kg bw/day	<0.01
PROC24 dermal	systemic	long term	2.83 mg/m ³	0.354
PROC24 dermal	systemic	short term	2.83 mg/m ³	0.071
PROC25 dermal	systemic	long term	0.283 mg/kg bw/day	0.035
PROC25 dermal	systemic	short term	0.283 mg/kg bw/day	<0.01

4 GUIDANCE TO DOWNSTREAM USER (DU) TO EVALUATE WHETHER HE/SHE WORKS INSIDE THE BOUNDARIES SET BY THE EXPOSURE SCENARIO

The downstream user (DU) works inside the boundaries set by the ES if either the proposed risk management measures as described above are met or the downstream user can demonstrate that his/her operational conditions and implemented risk management measures are adequate. This has to be done by showing that they limit the inhalation and dermal exposure to a level below the respective DNEL (given that the processes and activities in question are covered by the PROCs listed above) as given below.

PROFESSIONAL USE

Widespread dispersive use by professional workers

1 TITLES SECTION

Use at industrial sites

Environmental Release Category: ERC8a ERC8d Wide dispersive use of non-reactive processing aid (no inclusion into the article, outdoor)

Process category: PROC8a, PROC8b, PROC9, PROC10, PROC13

Process category (by-products): PC3, PC18, PC23, PC32, PC35,

2 CONDITIONS OF USE AFFECTING EXPOSURE

2.1 Environmental exposure control: Use of non-reactive processing aid at industrial site (no inclusion in article) ERC4

Daily amount for wide dispersive uses: 549 g T

Issue days per year: 365

Conditions and measures related to sewage treatment plant

STP Type: Municipal wastewater treatment plant

Water - minimum efficiency of 87.4%

Other conditions concerning environmental exposure

Water flow on the receiving surface: 18000 m³/d

Local fresh water dilution factor: 10

Local seawater dilution factor: 100

2.2 Worker Exposure Control: PROC8a, PROC8b, PROC9

Worker Exposure Control: Covers concentrations up to 100%.

Physical form of the product: Liquid.

Vapour pressure: <7 pa (20 °C)

Amounts used, frequency and duration of use (or useful life)

Duration: Covers use up to 8 h/day

Measures and technical-organizational conditions

Product causes serious eye damage Exposure to the substance should therefore be minimised through appropriate risk management measures. Regarding general risk management measures, operating conditions and the personal protective equipment to be adopted when handling the substance or mixture, see section "Measures for the management of general risks applicable to all activities" in this exposure context. It is assumed that the activities are undertaken using adequate equipment that is properly maintained by trained personnel working under supervision.

Activity category: Transfer of liquids. (<1000 L/m)

Conditions and measures for personal protection, hygiene and health assessment

Wear protective clothing as described in section 8.

Wear suitable gloves tested to EN374.

Use suitable eye protection.

Dermal: minimum efficiency of 80%.

Other conditions affecting worker exposure

Indoor and outdoor use

Room size < 100 m³.

Maximum process temperature: 20°C

Good general ventilation

2.3 Worker Exposure Control: PROC10

Worker Exposure Control: Covers concentrations up to 100%.

Physical form of the product: Liquid.

Vapour pressure: <7 pa (20 °C)

Amounts used, frequency and duration of use (or useful life)

Duration: Covers a daily exposure up to 4 hours.

Measures and technical-organizational conditions

Product causes serious eye damage Exposure to the substance should therefore be minimised through appropriate risk management measures. Regarding general risk management measures, operating conditions and the personal protective equipment to be adopted when handling the substance or mixture, see section "Measures for the management of general risks applicable to all activities" in this exposure context. It is assumed that the activities are undertaken using adequate equipment that is properly maintained by trained personnel working under supervision.

Conditions and measures for personal protection, hygiene and health assessment

Wear protective clothing as described in section 8.

Wear suitable gloves tested to EN374.

Use suitable eye protection.

Dermal: minimum efficiency of 90%.

Wear suitable respirator.

Inhalation: minimum yield of 90 %

Other conditions affecting worker exposure

Indoor and outdoor use

Room size < 100 m³.

Maximum process temperature: 20°C

Good general ventilation (1 to 3 air changes per hour).

2.4 Worker Exposure Control: PROC13

Worker Exposure Control: Covers concentrations up to 100%.

Physical form of the product: Liquid.

Vapour pressure: <25.94 pa (40 °C)

Amounts used, frequency and duration of use (or useful life)

Duration: Covers use up to 8 h/day

Measures and technical-organizational conditions

Product causes serious eye damage Exposure to the substance should therefore be minimised through appropriate risk management measures. Regarding general risk management measures, operating conditions and the personal protective equipment to be adopted when handling the substance or mixture, see section "Measures for the management of general risks applicable to all activities" in this exposure context. It is assumed that the activities are undertaken using adequate equipment that is properly maintained by trained personnel working under supervision.

Conditions and measures for personal protection, hygiene and health assessment

Wear protective clothing as described in section 8.

Wear suitable gloves tested to EN374.

Use suitable eye protection.

Dermal: minimum efficiency of 90%.

Inhalation: Local exhaust ventilation minimum yield of 90 %

Other conditions affecting worker exposure

Indoor and outdoor use

Maximum process temperature: 40°C

Internal use : Good general ventilation (1 to 3 air changes per hour).

3 EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE

3.1 Environmental release and exposure: ERC8a, ERC8d

Route release	Release	Release estimation method
water	1	ERC
air	1	ERC
Soil	0.0%	ERC8a
Soil	0.2	ERC8d
Protection target	Estimated exposure	RCR
Fresh water	0.00682 mg/l (EUSES 2.1.2)	<0.01
Sediment (freshwater)	0.035 mg/kg dry weight (EUSES 2.1.2)	<0.01
Sea water	0.000671 mg/l (EUSES 2.1.2)	<0.01
Sediment (marine water)	0.00347 mg/kg dry weight (EUSES 2.1.2)	<0.01
Sewage treatment plant	0.035 mg/l (EUSES 2.1.2)	<0.01
Soil	0.00503 mg/kg dry weight (EUSES 2.1.2)	0.011
Man through the environment - inhalation	0.0000432 mg/m ³ (EUSES 2.1.2)	<0.01
Man through the environment - oral	0.000399 mg/kg bw/day (EUSES 2.1.2)	<0.01

3.2 Worker exposure: PROC8a, PROC8d Internal use

Route of exposure	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	long term	5.5 mg/m ³ (ART v1.5)	0.268
inhalation	systemic	short term	11,8 mg/m ³ (ART v1.5)	0.107
dermal	systemic	long term	2.74 mg/kg bw/day (ECETOC TRA)	0.343
dermal	systemic	short term	2.74 mg/kg bw/day (ECETOC TRA)	0.069

3.3 Worker exposure: PROC8a, PROC8d 2.743 mg/kg bw/day (Chesar 3.4)

Route of exposure	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	long term	7.1 mg/m ³ (ART v1.5)	0.323
inhalation	systemic	short term	11,8 mg/m ³ (ART v1.5)	0.129
dermal	systemic	long term	2.74 mg/kg bw/day (ECETOC TRA)	0.343
dermal	systemic	short term	2.74 mg/kg bw/day (ECETOC TRA)	0.069

3.4 Worker exposure: PROC9 Internal use

Route of exposure	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	long term	5.9 mg/m ³ (ART v1.5)	0.268
inhalation	systemic	short term	11,8 mg/m ³ (ART v1.5)	0.107
dermal	systemic	long term	1.37 mg/kg p.c./giorno (ECETOC TRA 3.1)	0.171
dermal	systemic	short term	1.37 mg/kg p.c./giorno (ECETOC TRA 3.1)	0.034

3.5 Worker exposure: PROC9 2.743 mg/kg bw/day (Chesar 3.4)

Route of exposure	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	long term	7.1 mg/m ³ (ART v1.5)	0.323
inhalation	systemic	short term	14.2 mg/m ³ (ART v1.5)	0.129
dermal	systemic	long term	1.37 mg/kg p.c./giorno (ECETOC TRA 3.1)	0.171
dermal	systemic	short term	1.37 mg/kg p.c./giorno (ECETOC TRA 3.1)	0.034

3.6 Worker exposure: PROC10

Route of exposure	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	long term	6.759 mg/m ³ (Chesar 3.4)	0.307
inhalation	systemic	short term	45.05 mg/m ³ (Chesar 3.4)	0.41
dermal	systemic	long term	2.743 mg/kg bw/day (Chesar 3.4)	0.343
dermal	systemic	short term	2.743 mg/kg bw/day (Chesar 3.4)	0.069

3.6 Worker exposure: PROC13 Internal use

Route of exposure	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	long term	4.506 mg/m ³ (Chesar 3.4)	0.205
inhalation	systemic	short term	18.02 mg/m ³ (Chesar 3.4)	0.164
dermal	systemic	long term	1.371 mg/kg bw/day (Chesar 3.4)	0.034
dermal	systemic	short term	1.371 mg/kg bw/day (Chesar 3.4)	0.376

3.6 Worker exposure: PROC13 2.743 mg/kg bw/day (Chesar 3.4)

Route of exposure	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	long term	4.506 mg/m ³ (Chesar 3.4)	0.205
inhalation	systemic	short term	18.02 mg/m ³ (Chesar 3.4)	0.164
dermal	systemic	long term	1.371 mg/kg bw/day (Chesar 3.4)	0.171
dermal	systemic	short term	1.371 mg/kg bw/day (Chesar 3.4)	0.034

4 GUIDANCE TO DOWNSTREAM USER (DU) TO EVALUATE WHETHER HE/SHE WORKS INSIDE THE BOUNDARIES SET BY THE EXPOSURE SCENARIO

The downstream user (DU) works inside the boundaries set by the ES if either the proposed risk management measures as described above are met or the downstream user can demonstrate that his/her operational conditions and implemented risk management measures are adequate. This has to be done by showing that they limit the inhalation and dermal exposure to a level below the respective DNEL (given that the processes and activities in question are covered by the PROCs listed above) as given below.

1-methoxy-2-propanol

Substance identification

Chemical Name: 1-methoxy-2-propanol

CAS number: 107-98-2

Date - Version: 08/10/2019- 17.0

USE IN COATINGS (USE IN INDUSTRIAL PLANTS).

TITLE SECTION

Short title of the exposure scenario: Use in coatings. (Use in industrial plants).
ERC4; PROC1, PROC7, PROC8a, PROC8b, PROC9

EXPOSURE SCENARIO CONSIDERED - ERC4

Covered use descriptors

ERC4: Industrial use of processing aids not becoming part of articles.

Operating conditions

Yearly amount used in EU: 63,050,000 kg

Daily amount per site: 105,087 kg

Minimum emission days per year: 300

Emission factor to air: 27 %

Emission factor in water: 2 %

Emission factor in soil: 0.1 %

Releases based on A&B tables from TGD 2003

Freshwater dilution factor: 10

Marine water dilution factor: 100

Risk management measures

Treat air emissions to provide a typical removal efficiency of (%). 70 %

Prevent discharge of undissolved substance, or recover from wastewater.

Type of treatment plant: Municipal sewage treatment plant.

Total removal efficiency of the substance from the waste water after risk management measures and treatment in the treatment plant: 87.3 %

Assumed sewage treatment plant flow: 2,000 m³/d

Measures relative to the waste

Dispose of waste cans and containers according to local regulations.

Exposure estimation and reference to its source

Risk Characterization Ratio (RCR): 0,1338

Risk from environmental exposure is driven by fresh water. Risk from environmental exposure is driven by marine water.

Maximum safe use amount: 79,180 kg/day

Risk from environmental exposure is driven by fresh water. Risk from environmental exposure is driven by water.

EXPOSURE SCENARIO CONSIDERED - PROC1

Covered use descriptors

PROC1: Use in closed process, no likelihood of exposure.

Area of use: industrial

Operating conditions

Substance concentration: ≥ 0% - ≤ 100% 1-methoxy-2-propanol

Physical state: liquid, medium volatility.

Duration and frequency of application: 480 mins. 5 days a week

It is assumed that the use does not exceed 20°C ambient temperature

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, operator. Worker - inhalation, long-term - systemic

Exposure estimation: 0.04 mg/m³

Risk Characterization Ratio (RCR): 0,0001

Evaluation method: ESIG GES tool, operator. Worker - dermal, long term - systemic

Estimation of exposure 0.34 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.01

EXPOSURE SCENARIO CONSIDERED - PROC7

Covered use descriptors

PROC7: Industrial spray application Spraying (automatic/robotic)

Area of use: industrial

Operating conditions

Substance concentration: ≥ 0% - ≤ 100% 1-methoxy-2-propanol

Physical state: liquid, medium volatility.

Duration and frequency of application: 480 mins. 5 days a week

It is assumed that the use does not exceed 20°C ambient temperature

Risk management measures

Carry out in a vented booth or extracted enclosure. Effectiveness: 95%

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, operator. Worker - inhalation, long-term - systemic

Exposure estimation: 46.93 mg/m³

Risk Characterization Ratio (RCR): 0.13

Evaluation method: ESIG GES tool, operator. Worker - dermal, long term - systemic.

Exposure estimation: 2.14 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.04

EXPOSURE SCENARIO CONSIDERED - PROC7

Covered use descriptors

PROC7: Industrial spray application Spraying (manual)

Area of use: industrial

Operating conditions

Substance concentration: ≥ 0% - ≤ 100% 1-methoxy-2-propanol

Physical state: liquid, medium volatility.

Duration and frequency of application: 480 mins. 5 days/week

Risk management measures

Provide a good standard of controlled ventilation (10 to 15 air changes per hour). Effectiveness: 70%

Wear suitable gloves compliant with EN 374. Effectiveness: 80%

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, operator. Worker - inhalation, long-term - systemic

Exposure estimation: 281.56 mg/m³

Risk Characterization Ratio (RCR): 0.76

Evaluation method: ESIG GES tool, operator. Worker - dermal, long term - systemic.

Exposure estimation: 8.57 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.17

EXPOSURE SCENARIO CONSIDERED - PROC8a

Covered use descriptors

PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities. Material transfers. Non-dedicated system.

Area of use: industrial

Operating conditions

Substance concentration: ≥ 0% - ≤ 100% 1-methoxy-2-propanol

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days/week

It is assumed that the use does not exceed 20°C ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, operator. Worker - inhalation, long-term - systemic

Exposure estimation: 187.71 mg/m³

Risk Characterization Ratio (RCR): 0.51

Evaluation method: ESIG GES tool, operator. Worker - dermal, long term - systemic

Exposure estimation: 13.71 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.27

EXPOSURE SCENARIO CONSIDERED - PROC8b

Covered use descriptors

PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities. Material transfers. Dedicated plant.

Area of use: industrial

Operating conditions

Substance concentration: ≥ 0% - ≤ 100% 1-methoxy-2-propanol

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days/week

It is assumed that the use does not exceed 20°C ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, operator. Worker - inhalation, long-term - systemic

Exposure estimation: 187.71 mg/m³

Risk Characterization Ratio (RCR): 0.51

Evaluation method: ESIG GES tool, operator. Worker - dermal, long term - systemic

Exposure estimation: 6.86 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.14

EXPOSURE SCENARIO CONSIDERED - PROC9

Covered use descriptors

PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing). Material transfers. Drum/batch transfers. Transfer from containers. Dedicated plant.

Area of use: industrial

Operating conditions

Substance concentration: $\geq 0\%$ - $\leq 100\%$ 1-methoxy-2-propanol

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days/week

It is assumed that the use does not exceed 20°C ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, operator. Worker - inhalation, long-term - systemic

Exposure estimation: 37.54 mg/m³

Risk Characterization Ratio (RCR): 0.1

Evaluation method: ESIG GES tool, operator. Worker - dermal, long term - systemic

Exposure estimation: 13.71 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.27

EXPOSURE SCENARIO CONSIDERED - PROC7

Covered use descriptors

PROC7: Industrial spray application Spraying (automatic/robotic) Spraying (manual)

Area of use: industrial

Operating conditions

Substance concentration: $\geq 0\%$ - $\leq 5\%$ 1-methoxy-2-propanol

Physical state: liquid, medium volatility.

Duration and frequency of application: 480 mins. 5 days/week

It is assumed that the use does not exceed 20°C ambient temperature

Risk management measures

Wear suitable gloves compliant with EN 374. Effectiveness: 80%

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, operator. Worker - inhalation, long-term - systemic

Exposure estimation: 187.71 mg/m³

Risk Characterization Ratio (RCR): 0.51

Evaluation method: ESIG GES tool, operator. Worker - dermal, long term - systemic.

Exposure estimation: 8.57 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.17

EXPOSURE SCENARIO CONSIDERED - PROC7

Covered use descriptors

PROC7: Industrial spray application Spraying (manual)

Area of use: industrial

Operating conditions

Substance concentration: $\geq 0\%$ - $\leq 5\%$ 1-methoxy-2-propanol

Physical state: liquid, medium volatility.

Duration and frequency of application: 480 mins. 5 days/week

It is assumed that the use does not exceed 20°C ambient temperature

Risk management measures

Wear suitable gloves compliant with EN 374.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, operator. Workers - all relevant routes of exposure

If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

EXPOSURE SCENARIO CONSIDERED - PROC8a

Covered use descriptors

PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities. Material transfers Non-dedicated system

Area of use: industrial

Operating conditions

Substance concentration: $\geq 0\%$ - $< 5\%$ 1-methoxy-2-propanol

Physical state: liquid, medium volatility.

Duration and frequency of application: 480 mins. 5 days/week

It is assumed that the use does not exceed 20°C ambient temperature

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, operator. Worker - inhalation, long-term - systemic

Exposure estimation: 37.54 mg/m³

Risk Characterization Ratio (RCR): 0.1

USE IN COATINGS (USE IN INDUSTRIAL PLANTS).

TITLE SECTION

Short title of the exposure scenario: Use in coatings. (Use in industrial plants).

ERC8a, ERC8d; PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC10, PROC11, PROC13, PROC15, PROC19

EXPOSURE SCENARIO CONSIDERED - ERC8a

Covered use descriptors

ERC8a: Wide dispersive indoor use of processing aids in open systems.

Operating conditions

Yearly amount used in EU: 2,600,000 kgs

Daily amount per site: 433 kg

Minimum emission days per year: 300

Emission factor to air: 80 %

Emission factor in water: 10 %

Emission factor in soil: 0.1 %

Releases based on A&B tables from TGD 2003

Freshwater dilution factor: 10

Marine water dilution factor: 100

Risk management measures

Prevent discharge of undissolved substance, or recover from wastewater.

Type of treatment plant: Municipal sewage treatment plant.

Total removal efficiency of the substance from the waste water after risk management measures and treatment in the treatment plant: 87.3 %

Assumed sewage treatment plant flow: 2,000 m³/d

Measures relative to the waste

Dispose of waste cans and containers according to local regulations.

Exposure estimation and reference to its source

Risk Characterization Ratio (RCR): 0,029

Risk from environmental exposure is driven by fresh water. Risk from environmental exposure is driven by marine water.

Maximum safe use amount: 15,141 kg/day

Risk from environmental exposure is driven by fresh water. Risk from environmental exposure is driven by marine water.

EXPOSURE SCENARIO CONSIDERED - ERC8d

Covered use descriptors

ERC8d: Wide dispersive external use of processing aids in open systems.

Operating conditions

Yearly amount used in EU: 2,600,000 kgs

Daily amount per site: 433 kg

Minimum emission days per year: 300

Emission factor to air: 80 %

Emission factor in water: 10 %

Emission factor in soil: 0.1 %

Releases based on A&B tables from TGD 2003

Freshwater dilution factor: 10

Marine water dilution factor: 100

Risk management measures

Prevent discharge of undissolved substance, or recover from wastewater.

Type of treatment plant: Municipal sewage treatment plant.

Total removal efficiency of the substance from the waste water after risk management measures and treatment in the treatment plant: 87.3 %

Assumed sewage treatment plant flow: 2,000 m³/d

Measures relative to the waste

Dispose of waste cans and containers according to local regulations.

Exposure estimation and reference to its source

Risk Characterization Ratio (RCR): 0.029

Risk from environmental exposure is driven by fresh water. Risk from environmental exposure is driven by marine water.

Maximum safe use amount: 15,141 kg/day

Risk from environmental exposure is driven by fresh water. Risk from environmental exposure is driven by marine water.

EXPOSURE SCENARIO CONSIDERED - PROC1

Covered use descriptors

PROC1: Use in closed process, no likelihood of exposure.

Area of use: professional

Operating conditions

Substance concentration: ≥ 0% - ≤ 100% 1-methoxy-2-propanol

Physical state: liquid, medium volatility.

Duration and frequency of application: 480 mins. 5 days/week

It is assumed that the use does not exceed 20°C ambient temperature

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, operator. Worker - inhalation, long-term - systemic
Exposure estimation: 0.04 mg/m³
Risk Characterization Ratio (RCR): 0.0001
Evaluation method: ESIG GES tool, operator. Worker - dermal, long term - systemic
Estimation of exposure 0.34 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.01

EXPOSURE SCENARIO CONSIDERED - PROC2

Covered use descriptors

PROC2: Use in closed, continuous process with occasional controlled exposure. Filling/Preparation of equipment required for drums and containers.
Area of use: professional

Operating conditions

Substance concentration: ≥ 0% - ≤ 100% 1-methoxy-2-propanol
Physical state: liquid, medium volatility.
Duration and frequency of application: 480 mins. 5 days/week
It is assumed that the use does not exceed 20°C ambient temperature

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, operator. Workers - all relevant routes of exposure.
The use has been assessed as safe.

EXPOSURE SCENARIO CONSIDERED - PROC2

Covered use descriptors

PROC2: Use in closed, continuous process with occasional controlled exposure. General exposure. Use in confined systems (closed system). Filling/Preparation of equipment required for drums and containers.
Area of use: professional

Operating conditions

Substance concentration: ≥ 0% - ≤ 100% 1-methoxy-2-propanol
Physical state: liquid, medium volatility.
Duration and frequency of application: 480 mins. 5 days/week
It is assumed that the use does not exceed 20°C ambient temperature

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, operator. Worker - inhalation, long-term - systemic
Exposure estimation: 75.08 mg/m³
Risk Characterization Ratio (RCR): 0.2
Evaluation method: ESIG GES tool, operator. Worker - dermal, long term - systemic
Exposure estimation: 1.37 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.03

EXPOSURE SCENARIO CONSIDERED - PROC3

Covered use descriptors

PROC3: Use in batch process (synthesis or formulation): Preparation of material for application
Area of use: professional

Operating conditions

Substance concentration: ≥ 0% - ≤ 100% 1-methoxy-2-propanol
Physical state: liquid, medium volatility.
Duration and frequency of application: 480 mins. 5 days/week
It is assumed that the use does not exceed 20°C ambient temperature

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, operator. Worker - inhalation, long-term - systemic
Exposure estimation: 93.85 mg/m³
Risk Characterization Ratio (RCR): 0.25
Evaluation method: ESIG GES tool, operator. Worker - dermal, long term - systemic
Exposure estimation: 0.34 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.01

EXPOSURE SCENARIO CONSIDERED - PROC4

Covered use descriptors

PROC4: Use in batch and other processes (synthesis) where opportunity for exposure arises. Film formation. Air drying.
Area of use: professional

Operating conditions

Substance concentration: ≥ 0% - ≤ 100% 1-methoxy-2-propanol
Physical state: liquid, medium volatility.
Duration and frequency of application: 480 mins. 5 days/week
It is assumed that the use does not exceed 20°C ambient temperature

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, operator. Worker - inhalation, long-term - systemic

Exposure estimation: 187.71 mg/m³

Risk Characterization Ratio (RCR): 0,51

Evaluation method: ESIG GES tool, operator. Worker - dermal, long term - systemic

Exposure estimation: 6.86 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.14

EXPOSURE SCENARIO CONSIDERED - PROC4

Covered use descriptors

PROC4: Use in batch and other processes (synthesis) where opportunity for exposure arises. Film formation. Air drying.

Area of use: professional

Operating conditions

Substance concentration: ≥ 0% - ≤ 100% 1-methoxy-2-propanol

Physical state: liquid, medium volatility.

Duration and frequency of application: 480 mins. 5 days/week

Indoor/Outdoor: Indoor use.

It is assumed that the use does not exceed 20°C ambient temperature

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, operator. Workers - all relevant routes of exposure

The use has been assessed as safe.

EXPOSURE SCENARIO CONSIDERED - PROC5

Covered use descriptors

PROC5: Mixing in batch processes for formulation of preparations and articles (multistage and/or significant contact). Preparation of material for application.

Area of use: professional

Operating conditions

Substance concentration: ≥ 0% - ≤ 100% 1-methoxy-2-propanol

Physical state: liquid, medium volatility.

Duration and frequency of application: 480 mins. 5 days/week

It is assumed that the use does not exceed 20°C ambient temperature

Risk management measures

Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour): Effectiveness: 30%

Otherwise, ensure that operations are carried out externally.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, operator. Worker - inhalation, long-term - systemic

Exposure estimation: 262.79 mg/m³

Risk Characterization Ratio (RCR): 0.71

Evaluation method: ESIG GES tool, operator. Worker - dermal, long term - systemic.

Exposure estimation: 13.71 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.27

EXPOSURE SCENARIO CONSIDERED - PROC5

Covered use descriptors

PROC5: Mixing in batch processes for formulation of preparations and articles (multistage and/or significant contact). Preparation of material for application.

Area of use: professional

Operating conditions

Substance concentration: ≥ 0% - ≤ 100% 1-methoxy-2-propanol

Physical state: liquid, medium volatility.

Duration and frequency of application: 480 mins. 5 days/week

It is assumed that the use does not exceed 20°C ambient temperature

Risk management measures

Ensure that operations are carried out externally.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, operator. Workers - all relevant routes of exposure

If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

EXPOSURE SCENARIO CONSIDERED - PROC8a

Covered use descriptors

PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities. Material transfers. Drum/batch transfers. Non-dedicated system.

Area of use: professional

Operating conditions

Substance concentration: ≥ 0% - ≤ 100% 1-methoxy-2-propanol

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days/week

It is assumed that the use does not exceed 20°C ambient temperature.

Risk management measures

Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour) Effectiveness: 30%

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, operator. Worker - inhalation, long-term - systemic

Exposure estimation: 262.79 mg/m³

Risk Characterization Ratio (RCR): 0.71

Evaluation method: ESIG GES tool, operator. Worker - dermal, long term - systemic

Exposure estimation: 13.71 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0,27

EXPOSURE SCENARIO CONSIDERED - PROC8b

Covered use descriptors

PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities. Material transfers. Drum/batch transfers Dedicated plant.

Area of use: professional

Operating conditions

Substance concentration: ≥ 0% - ≤ 100% 1-methoxy-2-propanol

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days/week

It is assumed that the use does not exceed 20°C ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, operator. Worker - inhalation, long-term - systemic

Exposure estimation: 187.71 mg/m³

Risk Characterization Ratio (RCR): 0.51

Evaluation method: ESIG GES tool, operator. Worker - dermal, long term - systemic

Exposure estimation: 6.86 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.14

EXPOSURE SCENARIO CONSIDERED - PROC10

Covered use descriptors

PROC10: Application with rollers or brushes. Roller, spatula, jet application.

Area of use: professional

Operating conditions

Substance concentration: ≥ 0% - ≤ 100% 1-methoxy-2-propanol

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days/week

It is assumed that the use does not exceed 20°C ambient temperature.

Risk management measures

Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Effectiveness: 30%

Wear suitable gloves compliant with EN 374. Effectiveness: 80%

If there is no general ventilation, ensure that operations are carried out outdoors.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, operator. Worker - inhalation, long-term - systemic

Exposure estimation: 262.79 mg/m³

Risk Characterization Ratio (RCR): 0.71

Evaluation method: ESIG GES tool, operator. Worker - dermal, long term - systemic

Exposure estimation: 5.49 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.11

EXPOSURE SCENARIO CONSIDERED - PROC10

Covered use descriptors

PROC10: Application with rollers or brushes Roller, spatula, jet application

Area of use: professional

Operating conditions

Substance concentration: ≥ 0% - ≤ 100% 1-methoxy-2-propanol

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days/week

It is assumed that the use does not exceed 20°C ambient temperature.

Risk management measures

Ensure that operations are carried out externally.

Wear suitable gloves compliant with EN 374.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, operator. Workers - all relevant routes of exposure

If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

EXPOSURE SCENARIO CONSIDERED - PROC11

Covered use descriptors

PROC11: Non-industrial spray application. Spraying (manual).
Area of use: professional

Operating conditions

Substance concentration: $\geq 0\%$ - $\leq 100\%$ 1-methoxy-2-propanol
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days/week
Indoor/Outdoor: Indoor use.
It is assumed that the use does not exceed 20°C ambient temperature.

Risk management measures

Carry out in a vented booth or extracted enclosure. Effectiveness: 80%
Wear a respirator conforming to EN140 with type A filter or better. Effectiveness: 90%

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, operator. Worker - inhalation, long-term - systemic
Exposure estimation: 37.54 mg/m³
Risk Characterization Ratio (RCR): 0.1
Evaluation method: ESIG GES tool, operator. Worker - dermal, long term - systemic
Exposure estimation: 2.14 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.04

EXPOSURE SCENARIO CONSIDERED - PROC11

Covered use descriptors

PROC11: Non-industrial spray application. Spraying (manual).
Area of use: professional

Operating conditions

Substance concentration: $\geq 0\%$ - $\leq 100\%$ 1-methoxy-2-propanol
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days/week
It is assumed that the use does not exceed 20°C ambient temperature.

Risk management measures

Ensure that operations are carried out externally. Effectiveness: 30%
Wear a respirator conforming to EN140 with type A filter or better. Effectiveness: 90%
Wear suitable gloves compliant with EN 374. Effectiveness: 80%

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, operator. Worker - inhalation, long-term - systemic
Exposure estimation: 131.4 mg/m³
Risk Characterization Ratio (RCR): 0.36
Evaluation method: ESIG GES tool, operator. Worker - dermal, long term - systemic
Exposure estimation: 21.43 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.42

EXPOSURE SCENARIO CONSIDERED - PROC13

Covered use descriptors

PROC13: Treatment of articles by dipping, pouring, enamelling.
Area of use: professional

Operating conditions

Substance concentration: $\geq 0\%$ - $\leq 100\%$ 1-methoxy-2-propanol
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days/week
It is assumed that the use does not exceed 20°C ambient temperature.

Risk management measures

Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Effectiveness: 30%
Otherwise, ensure that operations are carried out externally.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, operator. Worker - inhalation, long-term - systemic
Exposure estimation: 262.79 mg/m³
Risk Characterization Ratio (RCR): 0.71
Evaluation method: ESIG GES tool, operator. Worker - dermal, long term - systemic
Exposure estimation: 13.71 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.27

EXPOSURE SCENARIO CONSIDERED - PROC13

Covered use descriptors

PROC13: Treatment of articles by dipping and pouring.
Area of use: professional

Operating conditions

Substance concentration: $\geq 0\%$ - $\leq 100\%$ 1-methoxy-2-propanol
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days/week
It is assumed that the use does not exceed 20°C ambient temperature.

Risk management measures

Ensure that operations are carried out externally.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, operator. Workers - all relevant routes of exposure.
If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

EXPOSURE SCENARIO CONSIDERED - PROC15

Covered use descriptors

PROC15: Use as laboratory reagent. Laboratory activities.
Area of use: professional

Operating conditions

Substance concentration: $\geq 0\%$ - $\leq 100\%$ 1-methoxy-2-propanol
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days/week
It is assumed that the use does not exceed 20°C ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, operator. Worker - inhalation, long-term - systemic
Exposure estimation: 37.54 mg/m³
Risk Characterization Ratio (RCR): 0.1
Evaluation method: ESIG GES tool, operator. Worker - dermal, long term - systemic
Exposure estimation: 0.34 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.01

EXPOSURE SCENARIO CONSIDERED - PROC19

Covered use descriptors

PROC19: Manual mixing with direct contact using only personal protective equipment. Hand application - fingerpaints, pastels, adhesives.
Area of use: professional

Operating conditions

Substance concentration: $\geq 0\%$ - $\leq 100\%$ 1-methoxy-2-propanol
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days/week
It is assumed that the use does not exceed 20°C ambient temperature.

Risk management measures

Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Effectiveness: 30%
Wear chemically resistant gloves in combination with "basic" employee training. Effectiveness: 90%
If there is no general ventilation, ensure that operations are carried out outdoors.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, operator. Worker - inhalation, long-term - systemic
Exposure estimation: 262.79 mg/m³
Risk Characterization Ratio (RCR): 0.71
Evaluation method: ESIG GES tool, operator. Worker - dermal, long term - systemic
Exposure estimation: 14.14 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.28

EXPOSURE SCENARIO CONSIDERED - PROC19

Covered use descriptors

PROC19: Manual mixing with direct contact using only personal protective equipment. Hand application - fingerpaints, pastels, adhesives.
Area of use: professional

Operating conditions

Substance concentration: $\geq 0\%$ - $\leq 100\%$ 1-methoxy-2-propanol
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days/week
It is assumed that the use does not exceed 20°C ambient temperature.

Risk management measures

Ensure that operations are carried out externally.
Wear chemically resistant gloves in combination with "basic" employee training.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, operator. Workers - all relevant routes of exposure.
If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

USE IN COATINGS (USE IN INDUSTRIAL PLANTS).

TITLE SECTION

Short title of the exposure scenario: Use in coatings. (Use in industrial plants).

ERC8a, ERC8b; PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC10, PROC11, PROC13, PROC15, PROC19

EXPOSURE SCENARIO CONSIDERED - ERC8a

Covered use descriptors

ERC8a: Wide dispersive indoor use of processing aids in open systems.

Operating conditions

Yearly amount used in EU: 2,600,000 kgs

Daily amount per site: 433 kg

Minimum emission days per year: 300

Emission factor to air: 80 %

Emission factor in water: 10 %

Emission factor in soil: 0.1 %

Releases based on A&B tables from TGD 2003

Freshwater dilution factor: 10

Marine water dilution factor: 100

Risk management measures

Prevent discharge of undissolved substance, or recover from wastewater.

Type of treatment plant: Municipal sewage treatment plant.

Total removal efficiency of the substance from the waste water after risk management measures and treatment in the treatment plant: 87.3 %

Assumed sewage treatment plant flow: 2,000 m³/d

Measures relative to the waste

Dispose of waste cans and containers according to local regulations.

Exposure estimation and reference to its source

Risk Characterization Ratio (RCR): 0.029

Risk from environmental exposure is driven by fresh water. Risk from environmental exposure is driven by marine water.

Maximum safe use amount: 15,141 kg/day

Risk from environmental exposure is driven by fresh water. Risk from environmental exposure is driven by marine water.

EXPOSURE SCENARIO CONSIDERED - ERC8d

Covered use descriptors

ERC8d: Wide dispersive external use of processing aids in open systems.

Operating conditions

Yearly amount used in EU: 2,600,000 kgs

Daily amount per site: 433 kg

Minimum emission days per year: 300

Emission factor to air: 80 %

Emission factor in water: 10 %

Emission factor in soil: 0.1 %

Releases based on A&B tables from TGD 2003

Freshwater dilution factor: 10

Marine water dilution factor: 100

Risk management measures

Prevent discharge of undissolved substance, or recover from wastewater.

Type of treatment plant: Municipal sewage treatment plant.

Total removal efficiency of the substance from the waste water after risk management measures and treatment in the treatment plant: 87.3 %

Assumed sewage treatment plant flow: 2,000 m³/d

Measures relative to the waste

Dispose of waste cans and containers according to local regulations.

Exposure estimation and reference to its source

Risk Characterization Ratio (RCR): 0.029

Risk from environmental exposure is driven by fresh water. Risk from environmental exposure is driven by marine water.

Maximum safe use amount: 15,141 kg/day

Risk from environmental exposure is driven by fresh water. Risk from environmental exposure is driven by marine water.

EXPOSURE SCENARIO CONSIDERED - PROC1

Covered use descriptors

PROC1: Use in closed process, no likelihood of exposure. General exposure (closed systems)

Area of use: professional

Operating conditions

Substance concentration: ≥ 0% - ≤ 5% 1-methoxy-2-propanol

Physical state: liquid, medium volatility.

Duration and frequency of application: 480 mins. 5 days/week

It is assumed that the use does not exceed 20°C ambient temperature

Exposure estimation and reference to its source

PROC1

Evaluation method: ESIG GES tool, operator. Workers - all relevant routes of exposure

If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

EXPOSURE SCENARIO CONSIDERED - PROC2

Covered use descriptors

PROC2: Use in closed, continuous process with occasional controlled exposure. Filling/Preparation of equipment required for drums and containers.
Area of use: professional

Operating conditions

Substance concentration: $\geq 0\%$ - $\leq 5\%$ 1-methoxy-2-propanol
Physical state: liquid, medium volatility.
Duration and frequency of application: 480 mins. 5 days/week
It is assumed that the use does not exceed 20°C ambient temperature

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, operator. Workers - all relevant routes of exposure.
If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

EXPOSURE SCENARIO CONSIDERED - PROC2

Covered use descriptors

PROC2: Use in closed, continuous process with occasional controlled exposure. General exposure. Use in confined systems (closed system). Filling/Preparation of equipment required for drums and containers.
Area of use: professional

Operating conditions

Substance concentration: $\geq 0\%$ - $\leq 5\%$ 1-methoxy-2-propanol
Physical state: liquid, medium volatility.
Duration and frequency of application: 480 mins. 5 days/week
It is assumed that the use does not exceed 20°C ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, operator. Worker - inhalation, long-term - systemic
Exposure estimation: 15.02 mg/m³
Risk Characterization Ratio (RCR): 0.04
Evaluation method: ESIG GES tool, operator. Worker - dermal, long term - systemic.
Exposure estimation: 1.37 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.03

EXPOSURE SCENARIO CONSIDERED - PROC3

Covered use descriptors

PROC3: Use in batch process (synthesis or formulation) Preparation of material for application
Area of use: professional

Operating conditions

Substance concentration: $\geq 0\%$ - $\leq 5\%$ 1-methoxy-2-propanol
Physical state: liquid, medium volatility.
Duration and frequency of application: 480 mins. 5 days/week
It is assumed that the use does not exceed 20°C ambient temperature

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, operator. Worker - inhalation, long-term - systemic
Exposure estimation: 18.77 mg/m³
Risk Characterization Ratio (RCR): 0.05
Evaluation method: ESIG GES tool, operator. Worker - dermal, long term - systemic
Exposure estimation: 0.34 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.01

EXPOSURE SCENARIO CONSIDERED - PROC4

Covered use descriptors

PROC4: Use in batch and other processes (synthesis) where opportunity for exposure arises. Film formation. Air drying.
Area of use: professional

Operating conditions

Substance concentration: $\geq 0\%$ - $\leq 5\%$ 1-methoxy-2-propanol
Physical state: liquid, medium volatility.
Duration and frequency of application: 480 mins. 5 days/week
It is assumed that the use does not exceed 20°C ambient temperature

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, operator. Worker - inhalation, long-term - systemic
Exposure estimation: 37.54 mg/m³
Risk Characterization Ratio (RCR): 0.1
Evaluation method: ESIG GES tool, operator. Worker - dermal, long term - systemic
Exposure estimation: 6.86 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.14

EXPOSURE SCENARIO CONSIDERED - PROC4

Covered use descriptors

PROC4: Use in batch and other processes (synthesis) where opportunity for exposure arises. Film formation. Air drying.
Area of use: professional

Operating conditions

Substance concentration: $\geq 0\%$ - $\leq 5\%$ 1-methoxy-2-propanol

Physical state: liquid, medium volatility.

Duration and frequency of application: 480 mins. 5 days/week

Indoor/Outdoor: Indoor use.

It is assumed that the use does not exceed 20°C ambient temperature

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, operator. Workers - all relevant routes of exposure

If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

EXPOSURE SCENARIO CONSIDERED - PROC5

Covered use descriptors

PROC5: Mixing in batch processes for formulation of preparations and articles (multistage and/or significant contact). Preparation of material for application.
Area of use: professional

Operating conditions

Substance concentration: $\geq 0\%$ - $\leq 5\%$ 1-methoxy-2-propanol

Physical state: liquid, medium volatility.

Duration and frequency of application: 480 mins. 5 days/week

It is assumed that the use does not exceed 20°C ambient temperature

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, operator. Worker - inhalation, long-term - systemic

Exposure estimation: 75.08 mg/m³

Risk Characterization Ratio (RCR): 0.2

Evaluation method: ESIG GES tool, operator. Worker - dermal, long term - systemic.

Exposure estimation: 13.71 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.27

EXPOSURE SCENARIO CONSIDERED - PROC5

Covered use descriptors

PROC5: Mixing in batch processes for formulation of preparations and articles (multistage and/or significant contact). Preparation of material for application.
Area of use: professional

Operating conditions

Substance concentration: $\geq 0\%$ - $\leq 5\%$ 1-methoxy-2-propanol

Physical state: liquid, medium volatility.

Duration and frequency of application: 480 mins. 5 days/week

It is assumed that the use does not exceed 20°C ambient temperature

Risk management measures

Ensure that operations are carried out externally.

Exposure estimation and reference to its source

PROC5

Evaluation method: ESIG GES tool, operator. Workers - all relevant routes of exposure.

If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

EXPOSURE SCENARIO CONSIDERED - PROC8a

Covered use descriptors

PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities. Material transfers. Drum/batch transfers. Non-dedicated system.

Area of use: professional

Operating conditions

Substance concentration: $\geq 0\%$ - $\leq 5\%$ 1-methoxy-2-propanol

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days/week

It is assumed that the use does not exceed 20°C ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, operator. Worker - inhalation, long-term - systemic

Exposure estimation: 75.08 mg/m³

Risk Characterization Ratio (RCR): 0.2

Evaluation method: ESIG GES tool, operator. Worker - dermal, long term - systemic

Exposure estimation: 13,71 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.27

EXPOSURE SCENARIO CONSIDERED - PROC8b

Covered use descriptors

PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities. Material transfers. Drum/batch transfers Dedicated plant.
Area of use: professional

Operating conditions

Substance concentration: $\geq 0\%$ - $\leq 5\%$ 1-methoxy-2-propanol

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days/week

It is assumed that the use does not exceed 20°C ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, operator. Worker - inhalation, long-term - systemic

Exposure estimation: 37.54 mg/m³

Risk Characterization Ratio (RCR): 0.1

Evaluation method: ESIG GES tool, operator. Worker - dermal, long term - systemic

Exposure estimation: 6.86 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.14

EXPOSURE SCENARIO CONSIDERED - PROC10

Covered use descriptors

PROC10: Application with rollers or brushes. Roller, spatula, jet application.

Area of use: professional

Operating conditions

Substance concentration: $\geq 0\%$ - $\leq 5\%$ 1-methoxy-2-propanol

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days/week

It is assumed that the use does not exceed 20°C ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, operator. Worker - inhalation, long-term - systemic

Exposure estimation: 75.08 mg/m³

Risk Characterization Ratio (RCR): 0.2

Evaluation method: ESIG GES tool, operator. Worker - dermal, long term - systemic

Exposure estimation: 27.43 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.54

EXPOSURE SCENARIO CONSIDERED - PROC10

Covered use descriptors

PROC10: Application with rollers or brushes. Roller, spatula, jet application.

Area of use: professional

Operating conditions

Substance concentration: $\geq 0\%$ - $\leq 5\%$ 1-methoxy-2-propanol

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days/week

Indoor/Outdoor: Outdoor use

It is assumed that the use does not exceed 20°C ambient temperature.

Exposure estimation and reference to its source

PROC10

Evaluation method: ESIG GES tool, operator. Workers - all relevant routes of exposure

If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

EXPOSURE SCENARIO CONSIDERED - PROC11

Covered use descriptors

PROC11: Non-industrial spray application. Spraying (manual).

Area of use: professional

Operating conditions

Substance concentration: $\geq 0\%$ - $\leq 5\%$ 1-methoxy-2-propanol

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days/week

It is assumed that the use does not exceed 20°C ambient temperature.

Risk management measures

Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Effectiveness: 30%

Wear chemically resistant gloves in combination with "basic" employee training. Effectiveness: 90%

If there is no general ventilation, ensure that operations are carried out outdoors.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, operator. Worker - inhalation, long-term - systemic

Exposure estimation: 262.79 mg/m³

Risk Characterization Ratio (RCR): 0.71

Evaluation method: ESIG GES tool, operator. Worker - dermal, long term - systemic

Exposure estimation: 10.71 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.21

EXPOSURE SCENARIO CONSIDERED - PROC11

Covered use descriptors

PROC11: Non-industrial spray application. Spraying (manual).
Area of use: professional

Operating conditions

Substance concentration: $\geq 0\%$ - $\leq 5\%$ 1-methoxy-2-propanol
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days/week
It is assumed that the use does not exceed 20°C ambient temperature.

Risk management measures

Ensure that operations are carried out externally.
Wear chemically resistant gloves in combination with "basic" employee training.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, operator. Workers - all relevant routes of exposure.
If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

EXPOSURE SCENARIO CONSIDERED - PROC13

Covered use descriptors

PROC13: Treatment of articles by dipping and pouring.
Area of use: professional

Operating conditions

Substance concentration: $\geq 0\%$ - $\leq 5\%$ 1-methoxy-2-propanol
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days/week
It is assumed that the use does not exceed 20°C ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, operator. Worker - inhalation, long-term - systemic
Exposure estimation: 75.08 mg/m³
Risk Characterization Ratio (RCR): 0.2
Evaluation method: ESIG GES tool, operator. Worker - dermal, long term - systemic
Exposure estimation: 13.71 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.27

EXPOSURE SCENARIO CONSIDERED - PROC13

Covered use descriptors

PROC13: Treatment of articles by dipping and pouring.
Area of use: professional

Operating conditions

Substance concentration: $\geq 0\%$ - $\leq 5\%$ 1-methoxy-2-propanol
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days/week
Indoor/Outdoor: Internal use
It is assumed that the use does not exceed 20°C ambient temperature.

Exposure estimation and reference to its source

PROC13
Evaluation method: ESIG GES tool, operator. Workers - all relevant routes of exposure
If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

EXPOSURE SCENARIO CONSIDERED - PROC15

Covered use descriptors

PROC15: Use as a laboratory reagent Laboratory activities
Area of use: professional

Operating conditions

Substance concentration: $\geq 0\%$ - $\leq 5\%$ 1-methoxy-2-propanol
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days/week
It is assumed that the use does not exceed 20°C ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, operator. Worker - inhalation, long-term - systemic
Exposure estimation: 7.51 mg/m³
Risk Characterization Ratio (RCR): 0.02
Evaluation method: ESIG GES tool, operator. Worker - dermal, long term - systemic
Exposure estimation: 0.34 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.01

EXPOSURE SCENARIO CONSIDERED - PROC19

Covered use descriptors

PROC19: Manual mixing with direct contact using only personal protective equipment. Hand application, finger paints, crayons, stickers
Area of use: professional

Operating conditions

Substance concentration: $\geq 0\%$ - $\leq 5\%$ 1-methoxy-2-propanol

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days/week

It is assumed that the use does not exceed 20°C ambient temperature.

Risk management measures

Wear suitable gloves compliant with EN 374. Effectiveness: 80%

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, operator. Worker - inhalation, long-term - systemic

Exposure estimation: 75.08 mg/m³

Risk Characterization Ratio (RCR): 0.2

Evaluation method: ESIG GES tool, operator. Worker - dermal, long term - systemic

Exposure estimation: 28.29 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.56

EXPOSURE SCENARIO CONSIDERED - PROC19

Covered use descriptors

PROC19: Manual mixing with direct contact using only personal protective equipment. Hand application - fingerpaints, pastels, adhesives.
Area of use: professional

Operating conditions

Substance concentration: $\geq 0\%$ - $\leq 5\%$ 1-methoxy-2-propanol

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days/week

Indoor/Outdoor Outdoor use

It is assumed that the use does not exceed 20°C ambient temperature.

Risk management measures

Wear suitable gloves compliant with EN 374.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, operator. Workers - all relevant routes of exposure.

If the operating conditions identified and risk management measures are applied, the use has been assessed as safe.

USE IN DETERGENTS (USE IN INDUSTRIAL PLANTS).

TITLE SECTION

Short title of the exposure scenario: Use in detergents. (Use in industrial plants).
ERC8a, ERC8d; PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC10, PROC11, PROC13

EXPOSURE SCENARIO CONSIDERED - ERC8a

Covered use descriptors

ERC8a: Wide dispersive indoor use of processing aids in open systems.

Operating conditions

Yearly amount used in EU: 5,200,000 kg
Daily amount per site: 0.71 kg
Minimum emission days per year: 365
Emission factor to air: 2 %
Emission factor in water: 0.001 %
Emission factor in soil: 0 %
Releases based on information from ESVOC/CEFIC
Freshwater dilution factor: 10
Marine water dilution factor: 100

Risk management measures

Treat air emissions to provide a typical removal efficiency of (%) 70 %
Type of treatment plant: Municipal sewage treatment plant.
Total removal efficiency of the substance from the waste water after risk management measures and treatment in the treatment plant: 87.3 %
Assumed sewage treatment plant flow: 2,000 m³/d

Measures relative to the waste

Dispose of waste cans and containers according to local regulations.

Exposure estimation and reference to its source

Risk Characterization Ratio (RCR): 0.00138
Risk from environmental exposure is driven by marine water.
Maximum safe use amount: 550 kg/day
Risk from environmental exposure is driven by fresh water. Risk from environmental exposure is driven by marine water.

EXPOSURE SCENARIO CONSIDERED - ERC8d

Covered use descriptors

ERC8d: Wide dispersive external use of processing aids in open systems.

Operating conditions

Yearly amount used in EU: 5,200,000 kg
Daily amount per site: 0.71 kg
Minimum emission days per year: 365
Emission factor to air: 2 %
Emission factor in water: 0.001 %
Emission factor in soil: 0 %
Releases based on information from ESVOC/CEFIC
Freshwater dilution factor: 10
Marine water dilution factor: 100
Other factors: Outdoor use.

Risk management measures

Treat air emissions to provide a typical removal efficiency of (%) 70 %
Type of treatment plant: Municipal sewage treatment plant.
Total removal efficiency of the substance from the waste water after risk management measures and treatment in the treatment plant: 87.3 %
Assumed sewage treatment plant flow: 2,000 m³/d

Measures relative to the waste

Dispose of waste cans and containers according to local regulations.

Exposure estimation and reference to its source

Risk Characterization Ratio (RCR): 0.00138
Risk from environmental exposure is driven by marine water.
Maximum safe use amount: 550 kg/day
Risk from environmental exposure is driven by marine water.

EXPOSURE SCENARIO CONSIDERED - PROC2

Covered use descriptors

PROC2: Use in closed, continuous process with occasional controlled exposure. Automated process with (semi) closed systems. Use in contained systems.
Area of use: professional

Operating conditions

Substance concentration: ≥ 0% - ≤ 100 % 1-methoxy-2-propanol
Physical state: liquid, medium volatility.
Duration and frequency of application: 480 mins. 5 days/week
It is assumed that the use does not exceed 20°C ambient temperature

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, operator. Worker - inhalation, long-term - systemic
Exposure estimation: 75.08 mg/m³
Risk Characterization Ratio (RCR): 0,2
Evaluation method: ESIG GES tool, operator. Worker - dermal, long term - systemic
Exposure estimation: 1.37 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.03

EXPOSURE SCENARIO CONSIDERED - PROC3

Covered use descriptors

PROC3: Use in batch process (synthesis or formulation). Use in contained systems. Drum/batch transfers. Automated process with (semi) closed systems.
Area of use: professional

Operating conditions

Substance concentration: ≥ 0% - ≤ 100 % 1-methoxy-2-propanol
Physical state: liquid, medium volatility.
Duration and frequency of application: 480 mins. 5 days/week
It is assumed that the use does not exceed 20°C ambient temperature

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, operator. Worker - inhalation, long-term - systemic
Exposure estimation: 93.85 mg/m³
Risk Characterization Ratio (RCR): 0.25
Evaluation method: ESIG GES tool, operator. Worker - dermal, long term - systemic
Exposure estimation: 0.34 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.01

EXPOSURE SCENARIO CONSIDERED - PROC4

Covered use descriptors

PROC4: Use in batch and other processes (synthesis) where opportunity for exposure arises. Semi-automatic process. Application of cleaning products in closed systems. Cleaning of medical devices.
Area of use: professional

Operating conditions

Substance concentration: ≥ 0% - ≤ 100 % 1-methoxy-2-propanol
Physical state: liquid, medium volatility.
Duration and frequency of application: 480 mins. 5 days/week
It is assumed that the use does not exceed 20°C ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, operator. Worker - inhalation, long-term - systemic
Exposure estimation: 187.71 mg/m³
Risk Characterization Ratio (RCR): 0,51
Evaluation method: ESIG GES tool, operator. Worker - dermal, long term - systemic
Exposure estimation: 6.86 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.14

EXPOSURE SCENARIO CONSIDERED - PROC4

Covered use descriptors

PROC4: Use in batch and other processes (synthesis) where opportunity for exposure arises. Application of cleaning products in closed systems.
Area of use: professional

Operating conditions

Substance concentration: ≥ 0% - ≤ 100 % 1-methoxy-2-propanol
Physical state: liquid, medium volatility.
Duration and frequency of application: 480 mins. 5 days/week
It is assumed that the use does not exceed 20°C ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, operator. Workers - all relevant routes of exposure.
The use has been assessed as safe.

EXPOSURE SCENARIO CONSIDERED - PROC4

Covered use descriptors

PROC4: Use in batch and other processes (synthesis) where opportunity for exposure arises. Cleaning of medical devices.
Area of use: professional

Operating conditions

Substance concentration: ≥ 0% - ≤ 100 % 1-methoxy-2-propanol
Physical state: liquid, medium volatility.
Duration and frequency of application: 480 mins. 5 days/week
It is assumed that the use does not exceed 20°C ambient temperature.

Exposure estimation and reference to its source

PROC4
Evaluation method: ESIG GES tool, operator. Workers - all relevant routes of exposure.
The use has been assessed as safe.

EXPOSURE SCENARIO CONSIDERED - PROC8a

Covered use descriptors

PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities. Filling/Preparation of equipment required for drums and containers. Non-dedicated system.

Area of use: professional

Operating conditions

Substance concentration: $\geq 0\%$ - $\leq 100\%$ 1-methoxy-2-propanol

Physical state: liquid, medium volatility

Duration and frequency of application: 240 mins. 5 days/week

It is assumed that the use does not exceed 20°C ambient temperature.

Risk management measures

Ensure that operations are carried out externally. Effectiveness: 30%

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, operator. Worker - inhalation, long-term - systemic

Exposure estimation: 157.68 mg/m³

Risk Characterization Ratio (RCR): 0.43

Evaluation method: ESIG GES tool, operator. Worker - dermal, long term - systemic

Exposure estimation: 13.71 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.27

EXPOSURE SCENARIO CONSIDERED - PROC8b

Covered use descriptors

PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. Filling/Preparation of equipment required for drums and containers. Dedicated plant.

Area of use: professional

Operating conditions

Substance concentration: $\geq 0\%$ - $\leq 100\%$ 1-methoxy-2-propanol

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days/week

It is assumed that the use does not exceed 20°C ambient temperature.

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, operator. Worker - inhalation, long-term - systemic

Exposure estimation: 187.71 mg/m³

Risk Characterization Ratio (RCR): 0.51

Evaluation method: ESIG GES tool, operator. Worker - dermal, long term - systemic

Exposure estimation: 6.86 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.14

EXPOSURE SCENARIO CONSIDERED - PROC10

Covered use descriptors

PROC10: Application with rollers or brushes. Low pressure cleaning with detergents.

Area of use: professional

Operating conditions

Substance concentration: $\geq 0\%$ - $\leq 100\%$ 1-methoxy-2-propanol

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days/week

It is assumed that the use does not exceed 20°C ambient temperature.

Risk management measures

Provide a good standard of controlled ventilation (10 to 15 air changes per hour). Effectiveness: 70%

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, operator. Worker - inhalation, long-term - systemic

Exposure estimation: 112.63 mg/m³

Risk Characterization Ratio (RCR): 0.31

Evaluation method: ESIG GES tool, operator. Worker - dermal, long term - systemic

Exposure estimation: 27.43 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.54

EXPOSURE SCENARIO CONSIDERED - PROC10

Covered use descriptors

PROC10: Application with rollers or brushes. Surface cleaning (manual) by fogging.

Area of use: professional

Operating conditions

Substance concentration: $\geq 0\%$ - $\leq 100\%$ 1-methoxy-2-propanol

Physical state: liquid, medium volatility

Duration and frequency of application: 480 mins. 5 days/week

It is assumed that the use does not exceed 20°C ambient temperature.

Risk management measures

Provide a good standard of controlled ventilation (10 to 15 air changes per hour). Effectiveness: 30%

Wear suitable gloves compliant with EN 374. Effectiveness: 80%

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, operator. Worker - inhalation, long-term - systemic
Exposure estimation: 262.79 mg/m³
Risk Characterization Ratio (RCR): 0.71
Evaluation method: ESIG GES tool, operator. Worker - dermal, long term - systemic
Exposure estimation: 5.49 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.11

EXPOSURE SCENARIO CONSIDERED - PROC10

Covered use descriptors

PROC10: Application with rollers or brushes. Manual application by fogging, dipping etc. Rolling/brushing
Area of use: professional

Operating conditions

Substance concentration: ≥ 0% - ≤ 100 % 1-methoxy-2-propanol
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days/week
It is assumed that the use does not exceed 20°C ambient temperature.

Risk management measures

Provide extract ventilation in points where emissions occur (LEV). Effectiveness: 80%

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, operator. Worker - inhalation, long-term - systemic
Exposure estimation: 75.08 mg/m³
Risk Characterization Ratio (RCR): 0.2
Evaluation method: ESIG GES tool, operator. Worker - dermal, long term - systemic
Exposure estimation: 27.43 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.54

EXPOSURE SCENARIO CONSIDERED - PROC11

Covered use descriptors

PROC11: Non-industrial spray application. Cleaning with high pressure washers
Area of use: professional

Operating conditions

Substance concentration: ≥ 0% - ≤ 5 % 1-methoxy-2-propanol
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days/week
Indoor/Outdoor Internal use
It is assumed that the use does not exceed 20°C ambient temperature.

Risk management measures

Provide a good standard of controlled ventilation (10 to 15 air changes per hour). Effectiveness: 70%
Wear suitable gloves compliant with EN 374. Effectiveness: 80%

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, operator. Worker - inhalation, long-term - systemic
Exposure estimation: 112.63 mg/m³
Risk Characterization Ratio (RCR): 0.31
Evaluation method: ESIG GES tool, operator. Worker - dermal, long term - systemic
Exposure estimation: 21.43 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.42

EXPOSURE SCENARIO CONSIDERED - PROC11

Covered use descriptors

PROC11: Non-industrial spray application. Cleaning with high pressure washers
Area of use: professional

Operating conditions

Substance concentration: ≥ 0% - ≤ 5 % 1-methoxy-2-propanol
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days/week
It is assumed that the use does not exceed 20°C ambient temperature.

Risk management measures

Ensure that operations are carried out externally. Effectiveness: 30%
Wear chemically resistant gloves in combination with "basic" employee training. Effectiveness: 90%

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, operator. Worker - inhalation, long-term - systemic
Exposure estimation: 262.79 mg/m³
Risk Characterization Ratio (RCR): 0.71
Evaluation method: ESIG GES tool, operator. Worker - dermal, long term - systemic
Exposure estimation: 10.71 mg/kg/day (body weight)
Risk Characterization Ratio (RCR): 0.21

EXPOSURE SCENARIO CONSIDERED - PROC13

Covered use descriptors

PROC13: Treatment of articles by dipping and pouring. Surface cleaning (manual). Enamelling, dipping and pouring.
Area of use: professional

Operating conditions

Substance concentration: $\geq 0\%$ - $\leq 100\%$ 1-methoxy-2-propanol
Physical state: liquid, medium volatility
Duration and frequency of application: 480 mins. 5 days/week
It is assumed that the use does not exceed 20°C ambient temperature.

Risk management measures

Provide a good standard of controlled ventilation (10 to 15 air changes per hour). Effectiveness: 70%

Exposure estimation and reference to its source

Evaluation method: ESIG GES tool, operator. Worker - inhalation, long-term - systemic

Exposure estimation: 112.63 mg/m³

Risk Characterization Ratio (RCR): 0.31

Evaluation method: ESIG GES tool, operator. Worker - dermal, long term - systemic

Exposure estimation: 13.71 mg/kg/day (body weight)

Risk Characterization Ratio (RCR): 0.27

2,2'-butyliminodiethanol

Substance identification

Chemical Name: 2,2'-butyliminodiethanol

CAS number: 102-79-4

Date - Version: 17/06/2025

INDUSTRIAL USE

Use in paints/coatings

Environment: ERC4

Worker : PROC1, PROC2, PROC3, PROC5, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC13, PROC15

CONDITIONS AFFECTING EXPOSURE

Environmental exposure control: Industrial use of processing aids not becoming part of articles. ERC4

Product features (article)

Physical form of the product: liquid substance

Amounts used, frequency and duration of use (or useful life)

Annual amount per site: <125 tonnes/year

Conditions and measures related to external recovery of waste

STP Type: Municipal wastewater treatment plant

Conditions and measures for waste treatment (including the article of waste)

Waste treatment: Dispose of waste product or used containers according to local regulations.

Other conditions concerning environmental exposure

Internal use

Worker Exposure Control: Use in closed process, exposure unlikely PROC1

Product features (article)

Covers the percentage of substance in the product up to 100%

Physical form of the product: liquid substance

Amounts used, frequency and duration of use (or useful life)

Annual amount per site: <400 tonnes/year

Duration: <8 h

Organizational and technical measures and conditions

Closed systems

Provide a good standard of general ventilation (1 to 3 air changes per hour).

Conditions and measures for personal protection, hygiene and health assessment

Wear safety goggles as described in section 8. Wear suitable gloves tested to EN374.

Dermal: Minimum efficiency of 80%.

Other conditions concerning worker exposure

Body parts exposed: The palm of a hand (240 cm²).

Internal use

Temperature: < 40°C

Worker Exposure Control: Use in a closed, continuous process with occasional controlled exposure PROC2

Product features (article)

Covers the percentage of substance in the product up to 100%

Physical form of the product: liquid substance

Amounts used, frequency and duration of use (or useful life)

Annual amount per site: <400 tonnes/year

Duration: <8 h

Organizational and technical measures and conditions

Closed systems

Provide a good standard of general ventilation (1 to 3 air changes per hour).

Local exhaust ventilation

Inhalation: minimum yield of 90%.

Conditions and measures for personal protection, hygiene and health assessment

Wear safety goggles as described in section 8. Wear suitable gloves tested to EN374.

Dermal: Minimum efficiency of 80%.

Other conditions concerning worker exposure

Body parts exposed: The palm of both hands (480 cm²).

Internal use

Temperature: < 40°C

Worker Exposure Control: Use in a closed batch process (synthesis or formulation) PROC3

Product features (article)

Covers the percentage of substance in the product up to 100%

Physical form of the product: liquid substance

Amounts used, frequency and duration of use (or useful life)

Duration: <8 h

Organizational and technical measures and conditions

Closed systems

Provide a good standard of general ventilation (5 to 10 air changes per hour).

Inhalation: minimum efficiency of 70%.

Local exhaust ventilation

Inhalation: minimum yield of 90%.

Conditions and measures for personal protection, hygiene and health assessment

Wear safety goggles as described in section 8. Wear suitable gloves tested to EN374.

Dermal: Minimum efficiency of 80%.

Other conditions concerning worker exposure

Body parts exposed: The palm of a hand (240 cm²).

Internal use

Temperature: < 40°C

Worker Exposure Control: Mixing or blending in batch processes for formulation of preparations and articles (contact at different stages and/or important contact) PROC5

Product features (article)

Covers the percentage of substance in the product up to 100%

Physical form of the product: liquid substance

Amounts used, frequency and duration of use (or useful life)

Duration: minimum efficiency of 95%

Organizational and technical measures and conditions

Provide a good standard of general ventilation (5 to 10 air changes per hour).

Inhalation: minimum efficiency of 70%.

Local exhaust ventilation

Inhalation: minimum yield of 90%.

Conditions and measures for personal protection, hygiene and health assessment

Wear safety goggles as described in section 8. Wear chemical resistant gloves (tested to EN374) and provide employees with basic training.

Dermal: minimum efficiency of 95%

Other conditions concerning worker exposure

Body parts exposed: The palm of both hands (480 cm²).

Internal use

Temperature: < 40°C

Worker Exposure Control: Industrial spray application PROC7

Product features (article)

Covers a percentage of substance in the product up to 1%

Physical form of the product: liquid substance

Amounts used, frequency and duration of use (or useful life)

Duration: minimum efficiency of 95%

Organizational and technical measures and conditions

Provide a good standard of general ventilation (5 to 10 air changes per hour).

Inhalation: minimum efficiency of 70%.

Local exhaust ventilation

Inhalation: minimum yield 95%.

Conditions and measures for personal protection, hygiene and health assessment

Wear safety goggles as described in section 8. Wear chemical resistant gloves (tested to EN374) and provide employees with basic training.

Dermal: minimum efficiency of 95%

Other conditions concerning worker exposure

Body parts exposed: Both hands and main arm parts

Internal use

Temperature: < 40°C

Worker Exposure Control: Transfer of substance or mixture (charging/discharging) from/to vessels/large containers at dedicated facilities. PROC8a/PROC8b

Product features (article)

Covers the percentage of substance in the product up to 100%

Physical form of the product: liquid substance

Amounts used, frequency and duration of use (or useful life)

Duration: <8 h

Organizational and technical measures and conditions

Local exhaust ventilation

Inhalation: minimum efficiency of 80%.

Conditions and measures for personal protection, hygiene and health assessment

Wear safety goggles as described in section 8. Wear chemical resistant gloves (tested to EN374) and provide employees with basic training.

Dermal: minimum efficiency of 95%

Other conditions concerning worker exposure

Body parts exposed: Both hands (960 cm²).

Internal use

Temperature: < 40°C

Room size: > 30m³

Ventilation rate per hour: 1

Worker Exposure Control: Transfer of chemicals into small containers (dedicated filling line) PROC9

Product features (article)

Covers the percentage of substance in the product up to 100%

Physical form of the product: liquid substance

Amounts used, frequency and duration of use (or useful life)

Duration: <8 h

Organizational and technical measures and conditions

Local exhaust ventilation

Inhalation: minimum efficiency of 80%.

Conditions and measures for personal protection, hygiene and health assessment

Wear safety goggles as described in section 8. Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.

Dermal: minimum efficiency of 95%

Other conditions concerning worker exposure

Body parts exposed: The palm of both hands (480 cm²).

Internal use

Temperature: < 40°C

Room size: > 30m³

Ventilation rate per hour: 1

Worker Exposure Control: Application with rollers or brushes PROC10

Product features (article)

Covers up to 5% of the substance in the product

Physical form of the product: liquid substance

Amounts used, frequency and duration of use (or useful life)

Duration: <8 h

Organizational and technical measures and conditions

Provide a good standard of general ventilation (5 to 10 air changes per hour).

Inhalation: minimum efficiency of 70%.

Local exhaust ventilation

Inhalation: minimum yield of 90%.

Conditions and measures for personal protection, hygiene and health assessment

Wear safety goggles as described in section 8. Wear chemical resistant gloves (tested to EN374) and provide employees with basic training.

Dermal: minimum efficiency of 95%

Other conditions concerning worker exposure

Body parts exposed: Both hands (960 cm²).

Internal use

Temperature: < 40°C

Worker Exposure Control: Treatment of articles by dipping and pouring PROC13

Product features (article)

Covers up to 5% of the substance in the product
Physical form of the product: liquid substance

Amounts used, frequency and duration of use (or useful life)

Duration: <8 h

Organizational and technical measures and conditions

Provide a good standard of general ventilation (5 to 10 air changes per hour).

Inhalation: minimum efficiency of 70%.

Local exhaust ventilation

Inhalation: minimum yield of 90%.

Conditions and measures for personal protection, hygiene and health assessment

Wear safety goggles as described in section 8. Wear chemical resistant gloves (tested to EN374) and provide employees with basic training.

Dermal: minimum efficiency of 95%

Other conditions concerning worker exposure

Body parts exposed: The palm of both hands (480 cm²).

Internal use

Temperature: < 40°C

Worker Exposure Control: Use as laboratory reagent PROC15

Product features (article)

Covers the percentage of substance in the product up to 100%

Physical form of the product: liquid substance

Amounts used, frequency and duration of use (or useful life)

Duration: minimum efficiency of 95%

Organizational and technical measures and conditions

Provide a good standard of general ventilation (5 to 10 air changes per hour).

Inhalation: minimum efficiency of 70%.

Local exhaust ventilation

Inhalation: minimum yield of 90%.

Conditions and measures for personal protection, hygiene and health assessment

Wear safety goggles as described in section 8.

Other conditions concerning worker exposure

Body parts exposed: The palm of a hand (240 cm²).

Internal use

Temperature: < 40°C

EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE

Release estimation method:

Worker exposure: Use in closed process, exposure unlikely PROC1

Route of exposure	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	0.067 mg/m ³	0.03
inhalation	local	Long-term	0.067 mg/m ³	0.059
dermal	systemic	Long-term	0.007 mg/kg day	<0.01
combined routes	systemic	Long-term		0.035

Worker exposure: Use in a closed, continuous process with occasional controlled exposure PROC2

Route of exposure	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	0.672 mg/m ³	0.303
inhalation	local	Long-term	0.672 mg/m ³	0.589
dermal	systemic	Long-term	0.138 mg/kg day	0.175
combined routes	systemic	Long-term		0.477

Worker exposure: Use in a closed batch process (synthesis or formulation) PROC3

Route of exposure	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	0.605 mg/m ³	0.272
inhalation	local	Long-term	0.605 mg/m ³	0.53
dermal	systemic	Long-term	0.138 mg/kg day	0.088
combined routes	systemic	Long-term		0.36

Worker exposure: Mixing or blending in batch processes for formulation of preparations and articles (contact at different stages and/or important contact) PROC5

Route of exposure	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	0.605 mg/m ³	0.272
inhalation	local	Long-term	0.605 mg/m ³	0.53
dermal	systemic	Long-term	0.343 mg/kg day	0.218
combined routes	systemic	Long-term		0.491

Worker exposure: Industrial spray application PROC7

Route of exposure	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	0.605 mg/m ³	0.272
inhalation	local	Long-term	0.605 mg/m ³	0.53
dermal	systemic	Long-term	0.685 mg/kg day	0.137
combined routes	systemic	Long-term		0.409

Worker exposure: Transfer of substance or mixture (charging/discharging) from/to vessels/large containers at dedicated facilities. PROC8a/PROC8b

Route of exposure	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	0.57 mg/m ³	0.257
inhalation	local	Long-term	0.57 mg/m ³	0.5
dermal	systemic	Long-term	0.685 mg/kg day	0.437
combined routes	systemic	Long-term		0.693

Worker exposure: Transfer of chemicals into small containers (dedicated filling line) PROC9

Route of exposure	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	0.19 mg/m ³	0.086
inhalation	local	Long-term	0.19 mg/m ³	0.167
dermal	systemic	Long-term	0.343 mg/kg day	0.218
combined routes	systemic	Long-term		0.304

Worker exposure: Application with rollers or brushes PROC10

Route of exposure	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	0.403 mg/m ³	0.182
inhalation	local	Long-term	0.403 mg/m ³	0.354
dermal	systemic	Long-term	0.274 mg/kg day	0.175
combined routes	systemic	Long-term		0.356

Worker exposure: Treatment of articles by dipping and pouring PROC13

Route of exposure	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	0.403 mg/m ³	0.182
inhalation	local	Long-term	0.403 mg/m ³	0.354
dermal	systemic	Long-term	0.137 mg/kg day	0.087
combined routes	systemic	Long-term		0.269

Worker exposure: Use as laboratory reagent PROC15

Route of exposure	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	0.605 mg/m ³	0.272
inhalation	local	Long-term	0.605 mg/m ³	0.53
dermal	systemic	Long-term	0.34 mg/kg day	0.217
combined routes	systemic	Long-term		0.489

GUIDANCE FOR DOWNSTREAM USERS TO ASSESS WHETHER THEY COMPLY WITH THE LIMITS SET BY THE EXPOSURE SCENARIO

PROFESSIONAL USE

Use in paints/coatings

Environment: ERC8a/ERC8d

Worker : PROC3, PROC5, PROC8a, PROC8b, PROC9, PROC10, PROC11, PROC13

CONDITIONS AFFECTING EXPOSURE

Environmental exposure control: Wide dispersive indoor and outdoor use of reactive substances or processing aids in open systems ERC8a/ERC8d

Product features (article)

Physical form of the product: liquid substance

Amounts used, frequency and duration of use (or useful life)

Daily amount for wide dispersive uses: <0.07 mg/kg day

Conditions and measures related to external recovery of waste

STP Type: Municipal wastewater treatment plant

Conditions and measures for waste treatment (including the article of waste)

Waste treatment: Dispose of waste product or used containers according to local regulations.

Other conditions concerning environmental exposure

Indoor and outdoor use

Worker Exposure Control: Use in a closed batch process (synthesis or formulation) PROC3

Product features (article)

Covers a percentage of substance in the product up to 1%

Physical form of the product: liquid substance

Amounts used, frequency and duration of use (or useful life)

Duration: <8 h

Organizational and technical measures and conditions

Closed systems

Provide a good standard of general ventilation (5 to 10 air changes per hour).

Inhalation: minimum efficiency of 70%.

Conditions and measures for personal protection, hygiene and health assessment

Wear safety goggles as described in section 8. Wear suitable gloves tested to EN374.

Dermal: Minimum efficiency of 80%.

Other conditions concerning worker exposure

Body parts exposed: The palm of a hand (240 cm²).

Internal use

Temperature: < 40°C

Worker Exposure Control: Mixing or blending in batch processes for formulation of preparations and articles (contact at different stages and/or important contact) PROC5

Product features (article)

Covers up to 5% of the substance in the product

Physical form of the product: liquid substance

Amounts used, frequency and duration of use (or useful life)

Duration: <1 h

Organizational and technical measures and conditions

Provide a good standard of general ventilation (5 to 10 air changes per hour).

Inhalation: minimum efficiency of 70%.

Conditions and measures for personal protection, hygiene and health assessment

Wear safety goggles as described in section 8. Wear chemical resistant gloves (tested to EN374) and provide employees with basic training.

Dermal: 90% minimum efficiency

Other conditions concerning worker exposure

Body parts exposed: The palm of both hands (480 cm²).

Internal use

Temperature: < 40°C

Worker Exposure Control: Transfer of substance or mixture (charging/discharging) from/to vessels/large containers at dedicated facilities. PROC8a/PROC8b

Product features (article)

Covers a percentage of substance in the product up to 1%

Physical form of the product: liquid substance

Amounts used, frequency and duration of use (or useful life)

Duration: <8 h

Organizational and technical measures and conditions

Local exhaust ventilation

Inhalation: minimum yield of 90%.

Conditions and measures for personal protection, hygiene and health assessment

Wear safety goggles as described in section 8. Wear chemical resistant gloves (tested to EN374) and provide employees with basic training.

Dermal: minimum efficiency of 95%

Other conditions concerning worker exposure

Body parts exposed: Both hands (960 cm²).

Internal use

Temperature: < 40°C

Room size: > 30m³

Ventilation rate per hour: 3

Worker Exposure Control: Transfer of chemicals into small containers (dedicated filling line) PROC9

Product features (article)

Covers a percentage of substance in the product up to 1%

Physical form of the product: liquid substance

Amounts used, frequency and duration of use (or useful life)

Duration: <8 h

Conditions and measures for personal protection, hygiene and health assessment

Wear safety goggles as described in section 8. Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.

Dermal: 90% minimum efficiency

Other conditions concerning worker exposure

Body parts exposed: The palm of both hands (480 cm²).

Internal use

Temperature: < 40°C

Room size: > 30m³

Ventilation rate per hour: 1

Worker Exposure Control: Application with rollers or brushes PROC10

Product features (article)

Covers a percentage of substance in the product up to 1%

Physical form of the product: liquid substance

Amounts used, frequency and duration of use (or useful life)

Duration: <8 h

Conditions and measures for personal protection, hygiene and health assessment

Wear safety goggles as described in section 8. Wear chemical resistant gloves (tested to EN374) and provide employees with basic training.

Dermal: minimum efficiency of 95%

Other conditions concerning worker exposure

Body parts exposed: Both hands (960 cm²).

Internal use

Room size: > 30m³

Temperature: < 40°C

Worker Exposure Control: Non-industrial spray application PROC11

Product features (article)

Covers a percentage of substance in the product up to 1%

Physical form of the product: liquid substance

Amounts used, frequency and duration of use (or useful life)

Duration: minimum efficiency of 95%

Conditions and measures for personal protection, hygiene and health assessment

Wear safety goggles as described in section 8. Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.

Dermal: 90% minimum efficiency

Other conditions concerning worker exposure

Body parts exposed: Hands and forearms

Internal use

Room size: > 30m³

Temperature: < 40°C

Worker Exposure Control: Treatment of articles by dipping and pouring PROC13

Product features (article)

Covers a percentage of substance in the product up to 1%

Physical form of the product: liquid substance

Amounts used, frequency and duration of use (or useful life)

Duration: <8 h

Conditions and measures for personal protection, hygiene and health assessment

Wear safety goggles as described in section 8. Wear chemical resistant gloves (tested to EN374) and provide employees with basic training.

Dermal: 90% minimum efficiency

Other conditions concerning worker exposure

Body parts exposed: The palm of both hands (480 cm²).

Internal use

Room size: > 30m³

Temperature: < 40°C

EXPOSURE ESTIMATION AND REFERENCE TO ITS SOURCE

Release estimation method:

Worker exposure: Use in a closed batch process (synthesis or formulation) PROC3

Route of exposure	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	0.605 mg/m ³	0.272
inhalation	local	Long-term	0.605 mg/m ³	0.53
dermal	systemic	Long-term	0.014 mg/kg day	<0.01
combined routes	systemic	Long-term		0.281

Worker exposure: Mixing or blending in batch processes for formulation of preparations and articles (contact at different stages and/or important contact) PROC5

Route of exposure	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	0.806 mg/m ³	0.363
inhalation	local	Long-term	0.806 mg/m ³	0.707
dermal	systemic	Long-term	0.274 mg/kg day	0.175
combined routes	systemic	Long-term		0.538

Worker exposure: Transfer of substance or mixture (charging/discharging) from/to vessels/large containers at dedicated facilities. PROC8a/PROC8b

Route of exposure	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	0.023 mg/m ³	0.01
inhalation	local	Long-term	0.023 mg/m ³	0.02
dermal	systemic	Long-term	0.137 mg/kg day	0.087
combined routes	systemic	Long-term		0.098

Worker exposure: Transfer of chemicals into small containers (dedicated filling line) PROC9

Route of exposure	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	0.004 mg/m ³	< 0.01
inhalation	local	Long-term	0.004 mg/m ³	< 0.01
dermal	systemic	Long-term	0.137 mg/kg day	0.437
combined routes	systemic	Long-term		0.439

Worker exposure: Application with rollers or brushes PROC10

Route of exposure	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	0.12 mg/m ³	0.054
inhalation	local	Long-term	0.12 mg/m ³	0.105
dermal	systemic	Long-term	0.274 mg/kg day	0.175
combined routes	systemic	Long-term		0.229

Worker exposure: Non-industrial spray application PROC11

Route of exposure	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	0.23mg/m ³	0.104
inhalation	local	Long-term	0.23mg/m ³	0.202
dermal	systemic	Long-term	1.071 mg/kg day	0.682
combined routes	systemic	Long-term		0.786

Worker exposure: Treatment of articles by dipping and pouring PROC13

Route of exposure	Health effect	Exposure indicator	Estimated exposure	RCR
inhalation	systemic	Long-term	0.14mg/m ³	0.063
inhalation	local	Long-term	0.14mg/m ³	0.123
dermal	systemic	Long-term	0.137 mg/kg day	0.087
combined routes	systemic	Long-term		0.15

GUIDANCE FOR DOWNSTREAM USERS TO ASSESS WHETHER THEY COMPLY WITH THE LIMITS SET BY THE EXPOSURE SCENARIO