

Prostab CPS

Version number: 3.0
Replaces version of: 20.08.2021 (2)

Revision: 15.06.2023

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

1.1 Product identifier

Trade name **Prostab CPS**
Registration number (REACH) Not relevant (mixture)

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

Relevant identified uses Industrial use

1.3 Details of the supplier of the safety data sheet

FRIEDRICH SCHARR KG
Liebknechtstraße 50
70565 Stuttgart
Germany

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e-mail: info@scharr.de
Website: www.scharr.de

e-mail (competent person) produktsicherheit@scharr.de

1.4 Emergency telephone number

Poison centre			
Country	Name	Postal code/city	Telephone
Germany	Giftinformation Freiburg	79106 Freiburg im Breisgau	+49 (0)761 19240

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP)

Hazard class	Category	Hazard class and category	Hazard statement
flammable liquid	3	Flam. Liq. 3	H226
acute toxicity (oral)	4	Acute Tox. 4	H302
acute toxicity (inhal.)	4	Acute Tox. 4	H332
skin corrosion/irritation	2	Skin Irrit. 2	H315
serious eye damage/eye irritation	2	Eye Irrit. 2	H319
respiratory sensitisation	1	Resp. Sens. 1	H334
skin sensitisation	1	Skin Sens. 1	H317
germ cell mutagenicity	2	Muta. 2	H341
carcinogenicity	2	Carc. 2	H351
reproductive toxicity	2	Repr. 2	H361d

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Hazard class	Category	Hazard class and category	Hazard statement
specific target organ toxicity - single exposure (respiratory tract irritation)	3	STOT SE 3	H335
specific target organ toxicity - single exposure (narcotic effects, drowsiness)	3	STOT SE 3	H336
hazardous to the aquatic environment - chronic hazard	2	Aquatic Chronic 2	H411

For full text of abbreviations: see SECTION 16.

The most important adverse physicochemical, human health and environmental effects

The product is combustible and can be ignited by potential ignition sources. Spillage and fire water can cause pollution of watercourses.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP)

- signal word danger

- pictograms

GHS02, GHS07, GHS08,
GHS09



- hazard statements

H226	Flammable liquid and vapour.
H302+H332	Harmful if swallowed or if inhaled.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H341	Suspected of causing genetic defects.
H351	Suspected of causing cancer.
H361d	Suspected of damaging the unborn child.
H411	Toxic to aquatic life with long lasting effects.

- precautionary statements

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/....
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P342+P311	If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
P370+P378	In case of fire: Use sand, carbon dioxide or powder extinguisher to extinguish.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P403+P235	Store in a well-ventilated place. Keep cool.

- hazardous ingredients for labelling (tert-butoxymethyl)oxirane, tetrachloroethylene

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2.3 Other hazards

Results of PBT and vPvB assessment

Does not contain a PBT-/vPvB-substance in a concentration of $\geq 0,1\%$.

Endocrine disrupting properties

Does not contain an endocrine disruptor (EDC) in a concentration of $\geq 0,1\%$.

SECTION 3: Composition/information on ingredients

3.1 Substances

Not relevant (mixture)

3.2 Mixtures

Description of the mixture

Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms
tetrachloroethylene	CAS No 127-18-4 EC No 204-825-9 REACH Reg. No 01-2119475329-28- xxxx	50 – < 75	Skin Irrit. 2 / H315 Eye Irrit. 2 / H319 Skin Sens. 1B / H317 Carc. 2 / H351 Repr. 2 / H361d STOT SE 3 / H336 Aquatic Chronic 2 / H411	
(tert-butoxymethyl)oxirane	CAS No 7665-72-7 EC No 231-640-0 REACH Reg. No 01-2120767971-41- xxxx	50 – < 75	Flam. Liq. 3 / H226 Acute Tox. 4 / H302 Eye Irrit. 2 / H319 Skin Sens. 1 / H317 Muta. 2 / H341	

Name of substance	Specific Conc. Limits	M-Factors	ATE	Exposure route
(tert-butoxymethyl)oxirane	-	-	2.000 mg/kg	oral

For full text of abbreviations: see SECTION 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes

Do not leave affected person unattended. Remove victim out of the danger area. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth. Self-protection of the first aider.

Following inhalation

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. In case of respiratory tract irritation, consult a physician. Provide fresh air.

Following skin contact

Wash with plenty of soap and water.

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Following eye contact

Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart. Call a physician in any case.

Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting. Call a physician in any case.

4.2 Most important symptoms and effects, both acute and delayed

Narcotic effects. Breathing difficulties. Headache. Vertigo.

4.3 Indication of any immediate medical attention and special treatment needed

Subsequent observance for pneumonia and pulmonary oedema. Supervise the blood circulation.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water spray, BC-powder, Carbon dioxide (CO₂), Sand

Unsuitable extinguishing media

Water jet

5.2 Special hazards arising from the substance or mixture

In case of insufficient ventilation and/or in use, may form flammable/explosive vapour-air mixture. Solvent vapours are heavier than air and may spread along floors. Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures. Danger of bursting container.

Hazardous combustion products

Carbon monoxide (CO), Carbon dioxide (CO₂), Sulphur dioxide (SO₂), Hydrogen chloride (HCl)

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Co-ordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety. Ventilate affected area. Avoidance of ignition sources.

For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases. Provision of sufficient ventilation.

6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it. If substance has entered a water course or sewer, inform the responsible authority.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains

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Advice on how to clean up a spill

Wipe up with absorbent material (e.g. cloth, fleece). Collect spillage: sawdust, kieselgur (diatomite), sand, universal binder

Appropriate containment techniques

Use of adsorbent materials.

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Recommendations

- measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation. Avoidance of ignition sources. Keep away from sources of ignition - No smoking. Take precautionary measures against static discharge. Use only in well-ventilated areas. Due to danger of explosion, prevent leakage of vapours into cellars, flues and ditches. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools.

- specific notes/details

Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures. Vapours are heavier than air, spread along floors and form explosive mixtures with air. Vapours may form explosive mixtures with air.

Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities

Managing of associated risks

- explosive atmospheres

Keep container tightly closed and in a well-ventilated place. Use local and general ventilation. Keep cool. Protect from sunlight.

- flammability hazards

Keep away from sources of ignition - No smoking. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharge. Protect from sunlight.

- ventilation requirements

Keep any substance that emits harmful vapours or gases in a place that allows these to be permanently extracted. Use local and general ventilation. Ground/bond container and receiving equipment.

- Lagerklasse (storage class according to TRGS 510, 3 (flammable and desensitizing explosive liquids) Germany)

- packaging compatibilities

Only packagings which are approved (e.g. acc. to ADR) may be used.

7.3 Specific end use(s)

See section 16 for a general overview.

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SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values (Workplace Exposure Limits)								
Country	Name of substance	CAS No	Identifier	TWA [ppm]	TWA [mg/m ³]	STEL [ppm]	STEL [mg/m ³]	Source
AT	tetrachloroethylene	127-18-4	MAK	20	138	40	275	GKV
CH	tetrachloroethylene	127-18-4	MAK	20	138	40	275	SUVA
DE	tetrachloroethylene	127-18-4	MAK	10	69	20	138	DFG
DE	tetrachloroethylene	127-18-4	AGW	10	69	20	138	TRGS 900
DE	(tert-but-oxy-methyl)oxirane	7665-72-7	MAK					DFG
EU	tetrachloroethylene	127-18-4	IOELV	20	138	40	275	2017/164/EU

Notation

STEL short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)
TWA time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours
time-weighted average (unless otherwise specified)

Biological limit values						
Country	Name of agent	Parameter	Notation	Identifier	Value	Source
AT	tetrachloroethylene (perchloroethylene)	trichloroacetic acid		BGW	40 mg/l	VGÜ
AT	tetrachloroethylene (perchloroethylene)	GGT - Gamma-Glutamyl-transpeptidase	men	BGW	66 U/l	VGÜ
AT	tetrachloroethylene (perchloroethylene)	SGOT - Serum-Glutamat-Oxalacetat-Transaminase (AST - Aspartat-Aminotransferase)	men	BGW	50 U/l	VGÜ
AT	tetrachloroethylene (perchloroethylene)	SGPT - Serum Glutamat Pyruvat Transaminase (ALT - Alanintransaminase)	men	BGW	50 U/l	VGÜ
AT	tetrachloroethylene (perchloroethylene)	GGT - Gamma-Glutamyl-transpeptidase	women	BGW	39 U/l	VGÜ

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Biological limit values						
Country	Name of agent	Parameter	Notation	Identifier	Value	Source
AT	tetrachloroethylene (perchloroethylene)	SGOT - Serum-Glutamat-Oxalacetat-Transaminase (AST - Aspartat-Aminotransferase)	women	BGW	35 U/l	VGÜ
AT	tetrachloroethylene (perchloroethylene)	SGPT - Serum Glutamat Pyruvat Transaminase (ALT - Alanintransaminase)	women	BGW	35 U/l	VGÜ
CH	tetrachloroethene	tetrachloroethylene		BAT	0,4 mg/l	SUVA
DE	tetrachloroethylene	tetrachloroethylene		BAT	200 µg/l	DFG
DE	tetrachloroethylene (tetrachloroethene)	tetrachloroethylene		BLV	200 µg/l	TRGS 903

Notation

men men
women women

Relevant DNELs of components of the mixture						
Name of substance	CAS No	End-point	Threshold level	Protection goal, route of exposure	Used in	Exposure time
tetrachloroethylene	127-18-4	DNEL	275 mg/m ³	human, inhalatory	worker (industry)	acute - systemic effects
tetrachloroethylene	127-18-4	DNEL	39,4 mg/kg	human, dermal	worker (industry)	chronic - systemic effects
tetrachloroethylene	127-18-4	DNEL	138 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
(tert-butoxymethyl)oxirane	7665-72-7	DNEL	8,04 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
(tert-butoxymethyl)oxirane	7665-72-7	DNEL	2,61 mg/m ³	human, inhalatory	worker (industry)	chronic - local effects
(tert-butoxymethyl)oxirane	7665-72-7	DNEL	1,14 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects

Relevant PNECs of components of the mixture						
Name of substance	CAS No	End-point	Threshold level	Organism	Environmental compartment	Exposure time
tetrachloroethylene	127-18-4	PNEC	0,051 mg/l	aquatic organisms	freshwater	short-term (single instance)
tetrachloroethylene	127-18-4	PNEC	0,0051 mg/l	aquatic organisms	marine water	short-term (single instance)

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Relevant PNECs of components of the mixture						
Name of substance	CAS No	End-point	Threshold level	Organism	Environmental compartment	Exposure time
tetrachloroethylene	127-18-4	PNEC	11,2 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
tetrachloroethylene	127-18-4	PNEC	0,903 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
tetrachloroethylene	127-18-4	PNEC	0,0903 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
tetrachloroethylene	127-18-4	PNEC	0,01 mg/kg	terrestrial organisms	soil	short-term (single instance)
tetrachloroethylene	127-18-4	PNEC	0,0364 mg/l	aquatic organisms	water	intermittent release
(tert-butoxymethyl)oxirane	7665-72-7	PNEC	14,9 µg/l	aquatic organisms	freshwater	short-term (single instance)
(tert-butoxymethyl)oxirane	7665-72-7	PNEC	1,49 µg/l	aquatic organisms	marine water	short-term (single instance)
(tert-butoxymethyl)oxirane	7665-72-7	PNEC	100 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
(tert-butoxymethyl)oxirane	7665-72-7	PNEC	68 µg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
(tert-butoxymethyl)oxirane	7665-72-7	PNEC	6,8 µg/kg	aquatic organisms	marine sediment	short-term (single instance)
(tert-butoxymethyl)oxirane	7665-72-7	PNEC	4,84 µg/kg	terrestrial organisms	soil	short-term (single instance)

8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection.

Skin protection

- hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. In the case of wanting to use the gloves again, clean them before taking off and air them well. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

- type of material

FKM: fluoro-elastomer

- breakthrough times of the glove material

0,4 mm

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- other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

Respiratory protection

[In case of inadequate ventilation] wear respiratory protection. Combination filtering device (EN 141). Type: A (against organic gases and vapours with a boiling point of > 65 °C, colour code: Brown).

Environmental exposure controls

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties**

Physical state	liquid
Colour	colourless
Odour	characteristic
Melting point/freezing point	<-20 °C
Boiling point or initial boiling point and boiling range	121 – 152 °C
Evaporation rate	not determined
Flammability	flammable liquid in accordance with GHS criteria
Lower and upper explosion limit	not determined
Flash point	55 °C
Auto-ignition temperature	160 – 180 °C
Decomposition temperature	>140 °C
pH (value)	not determined
Kinematic viscosity	0,8268 mm ² /s at 20 °C

Solubility(ies)

Water solubility	<5 g/l at 20 °C
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Partition coefficient

Partition coefficient n-octanol/water (log value)	this information is not available
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Vapour pressure	18 hPa at 20 °C
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Density and/or relative density

Density	1,27 g/cm ³ at 20 °C
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Particle characteristics	not relevant (liquid)
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9.2 Other information

Information with regard to physical hazard classes	there is no additional information
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Other safety characteristics

Solid content	0 %
Temperature class (EU, acc. to ATEX)	T4 (maximum permissible surface temperature on the equipment: 135°C)

SECTION 10: Stability and reactivity**10.1 Reactivity**

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials". The mixture contains reactive substance(s). Risk of ignition.

If heated:

Risk of ignition

10.2 Chemical stability

See below "Conditions to avoid".

10.3 Possibility of hazardous reactions

In case of insufficient ventilation and/or in use, may form flammable/explosive vapour-air mixture.

10.4 Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Hints to prevent fire or explosion

Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools. Take precautionary measures against static discharge.

10.5 Incompatible materials

Oxidisers

10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

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SECTION 11: Toxicological information

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

Test data are not available for the complete mixture.

Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

Classification according to GHS (1272/2008/EC, CLP)

Acute toxicity

Harmful if swallowed. Harmful if inhaled.

Acute toxicity estimate (ATE) of components of the mixture			
Name of substance	CAS No	Exposure route	ATE
(tert-butoxymethyl)oxirane	7665-72-7	oral	2.000 mg/kg

Acute toxicity of components of the mixture					
Name of substance	CAS No	Exposure route	Endpoint	Value	Species
tetrachloroethylene	127-18-4	inhalation: vapour	LC50	3.786 mg/l/4h	rat
tetrachloroethylene	127-18-4	oral	LD50	3.835 mg/kg	rat
(tert-butoxymethyl)oxirane	7665-72-7	oral	LD50	2.000 mg/kg	rat

Skin corrosion/irritation

Causes skin irritation.

Serious eye damage/eye irritation

Causes serious eye irritation.

Respiratory or skin sensitisation

May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.

Germ cell mutagenicity

Suspected of causing genetic defects.

Carcinogenicity

Suspected of causing cancer.

Reproductive toxicity

Suspected of damaging the unborn child.

CMR: National regulations

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List of carcinogenic, mutagenic or reproductive toxic substances (TRGS 905)

Name of substance	CAS No	Bewertung des AGS	Harmonisierte Einstufung (nur CMR)
tetrachloroethylene	127-18-4	K2 RD2	Carc. 2; H351
(tert-butoxymethyl)oxirane	7665-72-7	M2	

Legend

Carc. 2; H351 Carcinogenic, category 2; H351
K2 Carcinogenic, category 2
M2 Mutagenic, category 2
RD2 Causes developmental toxicity in humans, category 2

Specific target organ toxicity - single exposure

May cause respiratory irritation. May cause drowsiness or dizziness.

Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

11.2 Information on other hazards

There is no additional information.

SECTION 12: Ecological information

12.1 Toxicity

Acc. to 1272/2008/EC: Toxic to aquatic life with long lasting effects.
Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen (Ordinance on facilities for handling substances hazardous to water) (AwSV): WGK 3, highly hazardous to water (Germany)

Aquatic toxicity (acute) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
tetrachloroethylene	127-18-4	LC50	5 mg/l	fish	96 h
tetrachloroethylene	127-18-4	EC50	8,5 mg/l	aquatic invertebrates	48 h
tetrachloroethylene	127-18-4	ErC50	3,64 mg/l	algae	72 h
(tert-butoxymethyl)oxirane	7665-72-7	LC50	172 mg/l	fish	96 h
(tert-butoxymethyl)oxirane	7665-72-7	ErC50	>82,4 mg/l	algae	72 h

Aquatic toxicity (chronic) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
(tert-butoxymethyl)oxirane	7665-72-7	EC50	>1.000 mg/l	microorganisms	3 h

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12.2 Persistence and degradability

Biodegradation

Data are not available.

Degradability of components of the mixture						
Name of substance	CAS No	Process	Degradation rate	Time	Method	Source
tetrachloroethylene	127-18-4	oxygen depletion	11 %	28 d		
(tert-butoxy-methyl)oxirane	7665-72-7	oxygen depletion	7 %	28 d		ECHA

12.3 Bioaccumulative potential

Data are not available.

Bioaccumulative potential of components of the mixture				
Name of substance	CAS No	BCF	Log KOW	BOD5/COD
tetrachloroethylene	127-18-4	49	2,53 (pH value: ~7, 23 °C)	
(tert-butoxymethyl)oxirane	7665-72-7		0,97 (20 °C)	

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB. Does not contain a PBT-/vPvB-substance in a concentration of $\geq 0,1\%$.

12.6 Endocrine disrupting properties

Does not contain an endocrine disruptor (EDC) in a concentration of $\geq 0,1\%$.

Endocrine disrupting chemicals (EDC)				
Name of substance	CAS No	Combined category	Human health category	Wildlife category
tetrachloroethylene	127-18-4	CAT2	CAT2	CAT3

Legend

CAT2

Category 2 - at least some in vitro evidence of biological activity related to endocrine disruption

CAT3

Category 3 - no evidence of endocrine disruption or no data available

12.7 Other adverse effects

Data are not available.

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SECTION 13: Disposal considerations**13.1 Waste treatment methods**

Waste treatment-relevant information

Solvent reclamation/regeneration.

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used. Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

Relevant provisions relating to waste

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

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

ADR/RID/ADN	UN 1992
IMDG-Code	UN 1992
ICAO-TI	UN 1992

14.2 UN proper shipping name

ADR/RID/ADN	FLAMMABLE LIQUID, TOXIC, N.O.S.
IMDG-Code	FLAMMABLE LIQUID, TOXIC, N.O.S.
ICAO-TI	Flammable liquid, toxic, n.o.s.
Technical name (Hazardous ingredients)	tetrachloroethylene, (tert-butoxymethyl)oxirane

14.3 Transport hazard class(es)

ADR/RID/ADN	3 (6.1)
IMDG-Code	3 (6.1)
ICAO-TI	3 (6.1)

14.4 Packing group

ADR/RID/ADN	III
IMDG-Code	III
ICAO-TI	III

14.5 Environmental hazards

	hazardous to the aquatic environment
Environmentally hazardous substance (aquatic environment)	tetrachloroethylene

14.6 Special precautions for user

Provisions for dangerous goods (ADR) should be complied within the premises.

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14.7 Maritime transport in bulk according to IMO instruments


The cargo is not intended to be carried in bulk.

Information for each of the UN Model Regulations


Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN) - additional information

Classification code	FT1
Danger label(s)	3+6.1, fish and tree
	
Environmental hazards	yes (hazardous to the aquatic environment)
Special provisions (SP)	274
Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 L
Transport category (TC)	3
Tunnel restriction code (TRC)	D/E
Hazard identification No	36

International Maritime Dangerous Goods Code (IMDG) - additional information

Marine pollutant	yes (hazardous to the aquatic environment) (tetrachloroethylene)
Danger label(s)	3+6.1, fish and tree
	
Special provisions (SP)	223, 274
Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 L
EmS	F-E, S-D
Stowage category	A

International Civil Aviation Organization (ICAO-IATA/DGR) - additional information

Environmental hazards	yes (hazardous to the aquatic environment)
Danger label(s)	3+6.1
	
Special provisions (SP)	A3
Excepted quantities (EQ)	E1
Limited quantities (LQ)	2 L

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SECTION 15: Regulatory information

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

Relevant provisions of the European Union (EU)

List of substances subject to authorisation (REACH, Annex XIV) / SVHC - candidate list

none of the ingredients are listed

Seveso Directive

2012/18/EU (Seveso III)			
No	Dangerous substance/hazard categories	Qualifying quantity (tonnes) for the application of lower and upper-tier requirements	Notes
E2	environmental hazards (hazardous to the aquatic environment, cat. 2)	200 500	57)

Notation

57) hazardous to the Aquatic Environment in category Chronic 2

Industrial Emissions Directive (IED)

VOC content	50 – 100 %
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Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

none of the ingredients are listed

Regulation concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

Pollutant release and transfer registers (PRTR)			
Name of substance	CAS No	Remarks	Threshold for releases to air (kg/year)
tetrachloroethylene	127-18-4		2 000

Regulation on persistent organic pollutants (POP)

None of the ingredients are listed.

National regulations (Austria)

Ordinance on combustible liquids (VbF)

- VbF (group and hazard class) AII (combustible liquids of group A, hazard class II)

National regulations (Germany)

Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen (Ordinance on facilities for handling substances hazardous to water) (AwSV)

Wassergefährdungsklasse, WGK 3 highly hazardous to water
(water hazard class)

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Technical instructions on air quality control (Germany)

Number	Group of substances	Class	Conc.	Mass flow	Mass concentration	Notation
5.2.5	organic substances	class I	≥ 25 wt%	0,1 kg/h	20 mg/m ³	3)

Notation

3) a total mass flow of 0.50 kg/h or a total mass concentration of 50 mg/m³, each of which to be indicated as total carbon, shall not be exceeded (except organic particulate matter)

National regulations Switzerland

Ordinance on the incentive tax on volatile organic compounds (VOCV)

VOC content (object of taxation): 50 %

National inventories

Country	Inventory	Status
AU	AIIC	all ingredients are listed
CA	DSL	not all ingredients are listed
CA	NDSL	not all ingredients are listed
CN	IECSC	all ingredients are listed
EU	ECSI	all ingredients are listed
EU	REACH Reg.	all ingredients are listed
JP	CSCL-ENCS	not all ingredients are listed
KR	KECI	all ingredients are listed
MX	INSQ	not all ingredients are listed
NZ	NZIoC	all ingredients are listed
PH	PICCS	all ingredients are listed
TR	CICR	not all ingredients are listed
TW	TCSI	all ingredients are listed
US	TSCA	all ingredients are listed

Legend

AIIC	Australian Inventory of Industrial Chemicals
CICR	Chemical Inventory and Control Regulation
CSCL-ENCS	List of Existing and New Chemical Substances (CSCL-ENCS)
DSL	Domestic Substances List (DSL)
ECSI	EC Substance Inventory (EINECS, ELINCS, NLP)
IECSC	Inventory of Existing Chemical Substances Produced or Imported in China
INSQ	National Inventory of Chemical Substances
KECI	Korea Existing Chemicals Inventory
NDSL	Non-domestic Substances List (NDSL)
NZIoC	New Zealand Inventory of Chemicals
PICCS	Philippine Inventory of Chemicals and Chemical Substances (PICCS)
REACH Reg.	REACH registered substances
TCSI	Taiwan Chemical Substance Inventory
TSCA	Toxic Substance Control Act

15.2 Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

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SECTION 16: Other information

Indication of changes (revised safety data sheet)

Section	Former entry (text/value)	Actual entry (text/value)
2.3	Other hazards: of no significance	Other hazards
2.3		Results of PBT and vPvB assessment: Does not contain a PBT-/vPvB-substance in a concentration of $\geq 0,1\%$.
2.3		Endocrine disrupting properties: Does not contain an endocrine disruptor (EDC) in a concentration of $\geq 0,1\%$.
8.1		Occupational exposure limit values (Workplace Exposure Limits): change in the listing (table)
8.2		Breakthrough times of the glove material: 0,4 mm
8.2	Respiratory protection: In case of inadequate ventilation wear respiratory protection.	Respiratory protection: [In case of inadequate ventilation] wear respiratory protection. Combination filtering device (EN 141). Type: A (against organic gases and vapours with a boiling point of $> 65\text{ }^{\circ}\text{C}$, colour code: Brown).
11.1		CMR: National regulations
11.1		List of carcinogenic, mutagenic or reproductive toxic substances (TRGS 905): change in the listing (table)
12.5	Results of PBT and vPvB assessment: Data are not available.	Results of PBT and vPvB assessment: According to the results of its assessment, this substance is not a PBT or a vPvB. Does not contain a PBT-/vPvB-substance in a concentration of $\geq 0,1\%$.
12.6	Endocrine disrupting properties: The mixture contains substance(s) with an endocrine disrupting potential.	Endocrine disrupting properties: Does not contain an endocrine disruptor (EDC) in a concentration of $\geq 0,1\%$.

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
2017/164/EU	Commission Directive establishing a fourth list of indicative occupational exposure limit values pursuant to Council Directive 98/24/EC, and amending Commission Directives 91/322/EEC, 2000/39/EC and 2009/161/EU
Acute Tox.	Acute toxicity
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord relatif au transport international des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road)
ADR/RID/ADN	Agreements concerning the International Carriage of Dangerous Goods by Road/Rail/Inland Waterways (ADR/RID/ADN)
AGW	Workplace exposure limit

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acc. to Regulation (EC) No. 1907/2006 (REACH),
amended by 2020/878/EU

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Abbr.	Descriptions of used abbreviations
Aquatic Chronic	Hazardous to the aquatic environment - chronic hazard
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BOD	Biochemical Oxygen Demand
Carc.	Carcinogenicity
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
CMR	Carcinogenic, Mutagenic or toxic for Reproduction
COD	Chemical oxygen demand
DFG	Deutsche Forschungsgemeinschaft MAK-und BAT-Werte-Liste, Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe, Wiley-VCH, Weinheim
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
ErC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
Eye Dam.	Seriously damaging to the eye
Eye Irrit.	Irritant to the eye
Flam. Liq.	Flammable liquid
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
GKV	Grenzwerteverordnung
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	International Maritime Dangerous Goods Code
index No	The Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
IOELV	Indicative occupational exposure limit value

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acc. to Regulation (EC) No. 1907/2006 (REACH),
amended by 2020/878/EU

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Abbr.	Descriptions of used abbreviations
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
log KOW	n-Octanol/water
Muta.	Germ cell mutagenicity
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
ppm	Parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
Repr.	Reproductive toxicity
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
Skin Corr.	Corrosive to skin
Skin Irrit.	Irritant to skin
Skin Sens.	Skin sensitisation
STEL	Short-term exposure limit
STOT SE	Specific target organ toxicity - single exposure
SUVA	Grenzwerte am Arbeitsplatz, Suva
SVHC	Substance of Very High Concern
TRGS	Technische Regeln für Gefahrstoffe (technical rules for hazardous substances, Germany)
TRGS 900	Arbeitsplatzgrenzwerte (TRGS 900)
TRGS 903	Biologische Grenzwerte (TRGS 903)
TWA	Time-weighted average
VbF	Ordinance on combustible liquids (Austria)
VGÜ	Verordnung über die Gesundheitsüberwachung am Arbeitsplatz (VGÜ)
VOC	Volatile Organic Compounds
vPvB	Very Persistent and very Bioaccumulative

Key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU.

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

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Classification procedure

Physical and chemical properties: The classification is based on tested mixture.

Health hazards, Environmental hazards: The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

List of relevant phrases (code and full text as stated in section 2 and 3)

Code	Text
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H341	Suspected of causing genetic defects.
H351	Suspected of causing cancer.
H361d	Suspected of damaging the unborn child.
H411	Toxic to aquatic life with long lasting effects.

Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.