

GB

Page 1 of 15  
Safety data sheet according to Regulation (EC) No 1907/2006, Annex II (last amended by Regulation (EU) 2020/878)  
Revision date / version: 05.11.2024 / 0017  
Replacing version dated / version: 04.03.2024 / 0016  
Valid from: 05.11.2024  
PDF print date: 05.11.2024  
Bremsfluessigkeit DOT 5.1  
Brake Fluid DOT 5.1

## Safety data sheet according to Regulation (EC) No 1907/2006, Annex II (last amended by Regulation (EU) 2020/878)

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

#### 1.1 Product identifier

**Bremsfluessigkeit DOT 5.1**  
**Brake Fluid DOT 5.1**

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

**Relevant identified uses of the substance or mixture:**

Hydraulic fluid

**Uses advised against:**

No information available at present.

#### 1.3 Details of the supplier of the safety data sheet

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LIQUI MOLY GmbH  
Jerg-Wieland-Str. 4  
89081 Ulm-Lehr  
Tel.: (+49) 0731-1420-0  
Fax: (+49) 0731-1420-88

Qualified person's e-mail address: info@chemical-check.de, k.schnurbusch@chemical-check.de Please DO NOT use for requesting Safety Data Sheets.

#### 1.4 Emergency telephone number

**Emergency information services / official advisory body:**

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Landspítali- The National University Hospital of Iceland, tel. +354 543 2222 or 112 (valid only for Iceland)

**Telephone number of the company in case of emergencies:**

+49 (0) 700 / 24 112 112 (LMR)

+1 872 5888271 (LMR)

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

**Classification according to Regulation (EC) 1272/2008 (CLP)**

Hazard class	Hazard category	Hazard statement
Repr.	2	H361fd-Suspected of damaging fertility. Suspected of damaging the unborn child.

#### 2.2 Label elements

**Labeling according to Regulation (EC) 1272/2008 (CLP)**

Safety data sheet according to Regulation (EC) No 1907/2006, Annex II (last amended by Regulation (EU) 2020/878)  
 Revision date / version: 05.11.2024 / 0017  
 Replacing version dated / version: 04.03.2024 / 0016  
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 PDF print date: 05.11.2024  
 Bremsflüssigkeit DOT 5.1  
 Brake Fluid DOT 5.1



## Warning

H361fd-Suspected of damaging fertility. Suspected of damaging the unborn child.

P101-If medical advice is needed, have product container or label at hand. P102-Keep out of reach of children.  
 P201-Obtain special instructions before use. P280-Wear protective gloves / protective clothing / eye protection / face protection.  
 P308+P313-IF exposed or concerned: Get medical advice / attention.  
 P405-Store locked up.  
 P501-Dispose of contents / container to an approved waste disposal facility.

Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate

## 2.3 Other hazards

The mixture does not contain any vPvB substance (vPvB = very persistent, very bioaccumulative) or is not included under XIII of the regulation (EC) 1907/2006 (< 0,1 %).  
 The mixture does not contain any PBT substance (PBT = persistent, bioaccumulative, toxic) or is not included under XIII of the regulation (EC) 1907/2006 (< 0,1 %).  
 The mixture does not contain any substance with endocrine disrupting properties (< 0,1 %).

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

n.a.

### 3.2 Mixtures

Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate	
Registration number (REACH)	---
Index	---
EINECS, ELINCS, NLP, REACH-IT List-No.	250-418-4
CAS	30989-05-0
content %	80-95
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Repr. 2, H361fd

2-[2-(2-butoxyethoxy)ethoxy]ethanol	
Registration number (REACH)	01-2119475107-38-XXXX
Index	603-183-00-0
EINECS, ELINCS, NLP, REACH-IT List-No.	205-592-6
CAS	143-22-6
content %	10-15
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Eye Dam. 1, H318
Specific Concentration Limits and ATE	Eye Dam. 1, H318: >=30 % Eye Irrit. 2, H319: >=20 %

3,6,9,12-tetraoxahexadecan-1-ol	
Registration number (REACH)	---
Index	---
EINECS, ELINCS, NLP, REACH-IT List-No.	216-322-1
CAS	1559-34-8

Page 3 of 15  
 Safety data sheet according to Regulation (EC) No 1907/2006, Annex II (last amended by Regulation (EU) 2020/878)  
 Revision date / version: 05.11.2024 / 0017  
 Replacing version dated / version: 04.03.2024 / 0016  
 Valid from: 05.11.2024  
 PDF print date: 05.11.2024  
 Bremsflüssigkeit DOT 5.1  
 Brake Fluid DOT 5.1

<b>content %</b>	1-3
<b>Classification according to Regulation (EC) 1272/2008 (CLP), M-factors</b>	Eye Irrit. 2, H319
<b>2-(2-methoxyethoxy)ethanol</b>	<b>Substance for which an EU exposure limit value applies.</b>
<b>Registration number (REACH)</b>	01-2119475100-52-XXXX
<b>Index</b>	603-107-00-6
<b>EINECS, ELINCS, NLP, REACH-IT List-No.</b>	203-906-6
<b>CAS</b>	111-77-3
<b>content %</b>	<1
<b>Classification according to Regulation (EC) 1272/2008 (CLP), M-factors</b>	Repr. 1B, H360D
<b>Specific Concentration Limits and ATE</b>	Repr. 1B, H360D: ≥3 %

For the text of the H-phrases and classification codes (GHS/CLP), see Section 16.  
 The substances named in this section are given with their actual, appropriate classification!  
 For substances that are listed in appendix VI, table 3.1 of the regulation (EC) no. 1272/2008 (CLP regulation) this means that all notes that may be given here for the named classification have been taken into account.  
 The addition of the highest concentrations listed here can result in a classification. Only when this classification is listed in Section 2 does it apply. In all other cases the total concentration is below the classification.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

First-aiders should ensure they are protected!  
 Never pour anything into the mouth of an unconscious person!

#### Inhalation

Remove person from danger area.  
 Supply person with fresh air and consult doctor according to symptoms.

#### Skin contact

Remove polluted, soaked clothing immediately, wash thoroughly with plenty of water and soap, in case of irritation of the skin (flare), consult a doctor.

#### Eye contact

Remove contact lenses.  
 Wash thoroughly for several minutes using copious water. Seek medical help if necessary.

#### Ingestion

Rinse the mouth thoroughly with water.  
 Do not induce vomiting - give copious water to drink. Consult doctor immediately.  
 Allow drinking approx. 100 ml approx. 40% ethanol in esculent.

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

If applicable delayed symptoms and effects can be found in section 11 and the absorption route in section 4.1.  
 In certain cases, the symptoms of poisoning may only appear after an extended period / after several hours.

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

Symptomatic treatment.  
 Antidote:  
 None known

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

Water jet spray / alcohol resistant foam / CO2 / dry extinguisher.

#### Unsuitable extinguishing media

High volume water jet

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

In case of fire the following can develop:  
 Oxides of carbon  
 Oxides of nitrogen  
 Ammonia  
 Toxic gases

Safety data sheet according to Regulation (EC) No 1907/2006, Annex II (last amended by Regulation (EU) 2020/878)  
Revision date / version: 05.11.2024 / 0017  
Replacing version dated / version: 04.03.2024 / 0016  
Valid from: 05.11.2024  
PDF print date: 05.11.2024  
Bremsflüssigkeit DOT 5.1  
Brake Fluid DOT 5.1

### 5.3 Advice for firefighters

For personal protective equipment see Section 8.  
In case of fire and/or explosion do not breathe fumes.  
Protective respirator with independent air supply.  
Full protection, if necessary.  
Cool container at risk with water.  
Dispose of contaminated extinction water according to official regulations.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

#### 6.1.1 For non-emergency personnel

In case of spillage or accidental release, wear personal protective equipment as specified in section 8 to prevent contamination.  
Ensure sufficient ventilation, remove sources of ignition.  
Avoid dust formation with solid or powder products.  
Leave the danger zone if possible, use existing emergency plans if necessary.  
Avoid contact with eyes or skin.  
If applicable, caution - risk of slipping.

#### 6.1.2 For emergency responders

See section 8 for suitable protective equipment and material specifications.

### 6.2 Environmental precautions

If leakage occurs, dam up.  
Resolve leaks if this possible without risk.  
Prevent from entering drainage system.  
Prevent surface and ground-water infiltration, as well as ground penetration.  
If accidental entry into drainage system occurs, inform responsible authorities.

### 6.3 Methods and material for containment and cleaning up

Soak up with absorbent material (e.g. sand, earth) and dispose of according to Section 13.  
Flush residue using copious water.

### 6.4 Reference to other sections

For personal protective equipment see Section 8 and for disposal instructions see Section 13.

## SECTION 7: Handling and storage

In addition to information given in this section, relevant information can also be found in section 8 and 6.1.

### 7.1 Precautions for safe handling

#### 7.1.1 General recommendations

Ensure good ventilation.  
Avoid aerosol formation.  
Avoid contact with eyes or skin.  
Pregnant women should avoid contact with this product.  
Eating, drinking, smoking, as well as food-storage, is prohibited in work-room.  
Observe directions on label and instructions for use.  
Use working methods according to operating instructions.

#### 7.1.2 Notes on general hygiene measures at the workplace

General hygiene measures for the handling of chemicals are applicable.  
Wash hands before breaks and at end of work.  
Keep away from food, drink and animal feedingstuffs.  
Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

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

Keep out of access to unauthorised individuals.  
Not to be stored in gangways or stair wells.  
Store product closed and only in original packing.  
Store at room temperature.  
Store in a dry place.  
Store in a well ventilated place.

### 7.3 Specific end use(s)

GB

Page 5 of 15  
 Safety data sheet according to Regulation (EC) No 1907/2006, Annex II (last amended by Regulation (EU) 2020/878)  
 Revision date / version: 05.11.2024 / 0017  
 Replacing version dated / version: 04.03.2024 / 0016  
 Valid from: 05.11.2024  
 PDF print date: 05.11.2024  
 Bremsflüssigkeit DOT 5.1  
 Brake Fluid DOT 5.1

No information available at present.  
 Observe the instructions for good working practice and the recommendations for risk assessment.  
 Consult hazardous substance information systems, e.g. from the professional associations, the chemical industry or different industries, depending on the application (building materials, wood, chemistry, laboratory, leather, metal).

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

Chemical Name		2-(2-methoxyethoxy)ethanol	
WEL-TWA:	10 ppm (50,1 mg/m <sup>3</sup> ) (WEL-TWA, EU)	WEL-STEL:	---
Monitoring procedures: ---			
BMGV: ---		Other information: Sk (WEL, EU)	

Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate						
Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - freshwater		PNEC	0,211	mg/l	
	Environment - water, sporadic (intermittent) release		PNEC	2,112	mg/l	
	Environment - marine		PNEC	0,021	mg/l	
	Environment - sediment, freshwater		PNEC	0,76	mg/kg dw	
	Environment - sediment, marine		PNEC	0,076	mg/kg dw	
	Environment - soil		PNEC	0,028	mg/kg dw	
	Environment - sewage treatment plant		PNEC	100	mg/l	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	2,6	mg/m <sup>3</sup>	
Consumer	Human - dermal	Long term, systemic effects	DNEL	1,5	mg/kg bw/d	
Consumer	Human - oral	Long term, systemic effects	DNEL	1,5	mg/kg bw/d	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	14,8	mg/m <sup>3</sup>	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	4,2	mg/kg bw/d	

2-[2-(2-butoxyethoxy)ethoxy]ethanol						
Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - freshwater		PNEC	1,5	mg/l	
	Environment - marine		PNEC	0,15	mg/l	
	Environment - sediment, marine		PNEC	0,13	mg/kg dw	
	Environment - sediment, freshwater		PNEC	5,77	mg/kg dw	
	Environment - soil		PNEC	0,45	mg/kg dw	
	Environment - sewage treatment plant		PNEC	200	mg/l	
	Environment - water, sporadic (intermittent) release		PNEC	5	mg/l	
Consumer	Human - dermal	Long term, systemic effects	DNEL	25	mg/kg bw/day	

Page 6 of 15  
 Safety data sheet according to Regulation (EC) No 1907/2006, Annex II (last amended by Regulation (EU) 2020/878)  
 Revision date / version: 05.11.2024 / 0017  
 Replacing version dated / version: 04.03.2024 / 0016  
 Valid from: 05.11.2024  
 PDF print date: 05.11.2024  
 Bremsflüssigkeit DOT 5.1  
 Brake Fluid DOT 5.1

Consumer	Human - inhalation	Long term, systemic effects	DNEL	117	mg/m <sup>3</sup>	
Consumer	Human - oral	Long term, systemic effects	DNEL	2,5	mg/kg bw/day	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	50	mg/kg bw/day	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	195	mg/m <sup>3</sup>	

2-(2-methoxyethoxy)ethanol						
Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - freshwater		PNEC	12	mg/l	
	Environment - marine		PNEC	1,2	mg/l	
	Environment - water, sporadic (intermittent) release		PNEC	12	mg/l	
	Environment - sediment, freshwater		PNEC	44,4	mg/kg dw	
	Environment - sediment, marine		PNEC	0,44	mg/l	
	Environment - soil		PNEC	2,1	mg/kg dw	
	Environment - sewage treatment plant		PNEC	10000	mg/l	
	Environment - oral (animal feed)		PNEC	0,09	g/kg feed	
Consumer	Human - dermal	Long term, systemic effects	DNEL	0,27	mg/kg bw/day	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	25	mg/m <sup>3</sup>	
Consumer	Human - oral	Long term, systemic effects	DNEL	1,5	mg/kg bw/day	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	0,53	mg/kg bw/day	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	50,1	mg/m <sup>3</sup>	

2-(2-(2-methoxyethoxy)ethoxy)ethanol						
Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - freshwater		PNEC	10	mg/l	
	Environment - marine		PNEC	1	mg/l	
	Environment - water, sporadic (intermittent) release		PNEC	50	mg/l	
	Environment - sediment, freshwater		PNEC	36,6	mg/kg dw	
	Environment - sediment, marine		PNEC	3,66	mg/kg dw	
	Environment - soil		PNEC	1,56	mg/kg dw	
	Environment - sewage treatment plant		PNEC	200	mg/l	
	Environment - oral (animal feed)		PNEC	89	mg/kg feed	
Consumer	Human - dermal	Long term, systemic effects	DNEL	20	mg/kg bw/d	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	93	mg/m <sup>3</sup>	

Page 7 of 15  
 Safety data sheet according to Regulation (EC) No 1907/2006, Annex II (last amended by Regulation (EU) 2020/878)  
 Revision date / version: 05.11.2024 / 0017  
 Replacing version dated / version: 04.03.2024 / 0016  
 Valid from: 05.11.2024  
 PDF print date: 05.11.2024  
 Bremsflüssigkeit DOT 5.1  
 Brake Fluid DOT 5.1

Consumer	Human - oral	Long term, systemic effects	DNEL	2	mg/kg bw/d
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	40	mg/kg bw/d
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	156	mg/m3

- United Kingdom | WEL-TWA = Workplace Exposure Limit - Long-term exposure limit - 8-hour TWA (= time weighted average) reference period (EH40/2005 Workplace exposure limits (Fourth Edition 2020)).  
 (EU) = Directive 91/322/EEC, 98/24/EC, 2000/39/EC, 2004/37/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU or 2019/1831/EU:  
 (8) = Inhalable fraction (2004/37/CE, 2017/164/EU). (9) = Respirable fraction (2004/37/CE, 2017/164/EU). (11) = Inhalable fraction (2004/37/CE). (12) = Inhalable fraction. Respirable fraction in those Member States that implement, on the date of the entry into force of this Directive, a biomonitoring system with a biological limit value not exceeding 0,002 mg Cd/g creatinine in urine (2004/37/CE). |  
 | WEL-STEL = Workplace Exposure Limit - Short-term exposure limit - 15-minute reference period (EH40/2005 Workplace exposure limits (Fourth Edition 2020)).  
 (EU) = Directive 91/322/EEC, 98/24/EC, 2000/39/EC, 2004/37/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU or 2019/1831/EU:  
 (8) = Inhalable fraction (2004/37/EC, 2017/164/EU). (9) = Respirable fraction (2004/37/EC, 2017/164/EU). (10) = Short-term exposure limit value in relation to a reference period of 1 minute (2017/164/EU). |  
 | BMGV = Biological monitoring guidance value (EH40/2005 Workplace exposure limits (Fourth Edition 2020)).  
 (EU) = Directive 98/24/EC or 2004/37/EC or SCOEL (Biological Limit Value - BLV, Recommendation from the Scientific Committee on Occupational Exposure Limits (SCOEL)) |  
 | Other information (EH40/2005 Workplace exposure limits (Fourth Edition 2020)): Sen = Capable of causing occupational asthma. Sk = Can be absorbed through skin. Carc = Capable of causing cancer and/or heritable genetic damage.  
 (EU) = Directive 91/322/EEC, 98/24/EC, 2000/39/EC, 2004/37/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU, 2019/1831/EU or 2024/869/EU:  
 (13) = The substance can cause sensitisation of the skin and of the respiratory tract (98/24/EC, 2004/37/CE), (14) = The substance can cause sensitisation of the skin (2004/37/CE), (15) = Substantial contribution to the total body burden via dermal exposure possible. |

## 8.2 Exposure controls

### 8.2.1 Appropriate engineering controls

Ensure good ventilation. This can be achieved by local suction or general air extraction.  
 If this is insufficient to maintain the concentration under the WEL or AGW values, suitable breathing protection should be worn.  
 Applies only if maximum permissible exposure values are listed here.  
 Suitable assessment methods for reviewing the effectiveness of protection measures adopted include metrological and non-metrological investigative techniques.  
 These are specified by e.g. EN 14042.  
 EN 14042 "Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents".

### 8.2.2 Individual protection measures, such as personal protective equipment

General hygiene measures for the handling of chemicals are applicable.  
 Wash hands before breaks and at end of work.  
 Keep away from food, drink and animal feedingstuffs.  
 Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

Eye/face protection:  
 Tight fitting protective goggles with side protection (EN 166).

Skin protection - Hand protection:  
 Chemical resistant protective gloves (EN ISO 374).  
 Recommended  
 Protective gloves made of butyl (EN ISO 374).  
 Minimum layer thickness in mm:  
 0,3  
 Protective nitrile gloves (EN ISO 374).  
 Minimum layer thickness in mm:  
 0,2  
 Permeation time (penetration time) in minutes:  
 >= 480  
 The breakthrough times determined in accordance with EN 16523-1 were not obtained under practical conditions.  
 The recommended maximum wearing time is 50% of breakthrough time.  
 Protective hand cream recommended.

Page 8 of 15  
 Safety data sheet according to Regulation (EC) No 1907/2006, Annex II (last amended by Regulation (EU) 2020/878)  
 Revision date / version: 05.11.2024 / 0017  
 Replacing version dated / version: 04.03.2024 / 0016  
 Valid from: 05.11.2024  
 PDF print date: 05.11.2024  
 Bremsflüssigkeit DOT 5.1  
 Brake Fluid DOT 5.1

Skin protection - Other:  
 Protective working garments (e.g. safety shoes EN ISO 20345, long-sleeved protective working garments).

Respiratory protection:  
 If OES or MEL is exceeded.  
 Filter A2 P2 (EN 14387), code colour brown, white  
 Observe wearing time limitations for respiratory protection equipment.

Thermal hazards:  
 Not applicable

Additional information on hand protection - No tests have been performed.  
 In the case of mixtures, the selection has been made according to the knowledge available and the information about the contents.  
 Selection of materials derived from glove manufacturer's indications.  
 Final selection of glove material must be made taking the breakthrough times, permeation rates and degradation into account.  
 Selection of a suitable glove depends not only on the material but also on other quality characteristics and varies from manufacturer to manufacturer.  
 In the case of mixtures, the resistance of glove materials cannot be predicted and must therefore be tested before use.  
 The exact breakthrough time of the glove material can be requested from the protective glove manufacturer and must be observed.

### 8.2.3 Environmental exposure controls

No information available at present.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Physical state:	Liquid 25°C
Colour:	Yellow, Amber
Odour:	Mild
Melting point/freezing point:	<-50 °C
Boiling point or initial boiling point and boiling range:	>260 °C
Flammability:	>280 °C
Lower explosion limit:	There is no information available on this parameter.
Upper explosion limit:	There is no information available on this parameter.
Flash point:	>120 °C
Auto-ignition temperature:	There is no information available on this parameter.
Decomposition temperature:	300 °C
pH:	7,49
Kinematic viscosity:	5-10 cSt (20°C, There is no information available on this parameter. )
Solubility:	Soluble
Partition coefficient n-octanol/water (log value):	1,5
Vapour pressure:	1 mbar
Density and/or relative density:	1,02-1,07 g/cm3
Relative vapour density:	There is no information available on this parameter.
Particle characteristics:	Does not apply to liquids.

### 9.2 Other information

Evaporation rate: 0,01

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

The product has not been tested.

### 10.2 Chemical stability

Stable with proper storage and handling.

### 10.3 Possibility of hazardous reactions

No dangerous reactions are known.

### 10.4 Conditions to avoid

See also section 7.

Strong heat

Protect from humidity.



Safety data sheet according to Regulation (EC) No 1907/2006, Annex II (last amended by Regulation (EU) 2020/878)  
 Revision date / version: 05.11.2024 / 0017  
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 PDF print date: 05.11.2024  
 Bremsflüssigkeit DOT 5.1  
 Brake Fluid DOT 5.1

## 10.5 Incompatible materials

See also section 7.

Alkalis  
 Acids  
 Oxidizing agents  
 Reducing agent

## 10.6 Hazardous decomposition products

See also section 5.2

No decomposition when used as directed.

# SECTION 11: Toxicological information

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

Possibly more information on health effects, see Section 2.1 (classification).

### Bremsflüssigkeit DOT 5.1 Brake Fluid DOT 5.1

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:						n.d.a.
Acute toxicity, by dermal route:						n.d.a.
Acute toxicity, by inhalation:						n.d.a.
Skin corrosion/irritation:						n.d.a.
Serious eye damage/irritation:						n.d.a.
Respiratory or skin sensitisation:						n.d.a.
Germ cell mutagenicity:						n.d.a.
Carcinogenicity:						n.d.a.
Reproductive toxicity:						n.d.a.
Specific target organ toxicity - single exposure (STOT-SE):						n.d.a.
Specific target organ toxicity - repeated exposure (STOT-RE):						n.d.a.
Aspiration hazard:						n.d.a.
Symptoms:						n.d.a.

### Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>2000	mg/kg	Rat	OECD 401 (Acute Oral Toxicity)	
Acute toxicity, by dermal route:	LD50	>2000	mg/kg	Rat	OECD 402 (Acute Dermal Toxicity)	
Skin corrosion/irritation:				Rabbit	OECD 404 (Acute Dermal Irritation/Corrosion)	Not irritant
Serious eye damage/irritation:				Rabbit	OECD 405 (Acute Eye Irritation/Corrosion)	Not irritant
Respiratory or skin sensitisation:				Guinea pig	OECD 406 (Skin Sensitisation)	No (skin contact)
Germ cell mutagenicity:				Salmonella typhimurium	OECD 471 (Bacterial Reverse Mutation Test)	Negative
Germ cell mutagenicity:					OECD 476 (In Vitro Mammalian Cell Gene Mutation Test)	Negative
Germ cell mutagenicity:					OECD 473 (In Vitro Mammalian Chromosome Aberration Test)	Negative
Reproductive toxicity (Developmental toxicity):	NOAEL	250	mg/kg	Rabbit	OECD 414 (Prenatal Developmental Toxicity Study)	Positive



Page 11 of 15  
 Safety data sheet according to Regulation (EC) No 1907/2006, Annex II (last amended by Regulation (EU) 2020/878)  
 Revision date / version: 05.11.2024 / 0017  
 Replacing version dated / version: 04.03.2024 / 0016  
 Valid from: 05.11.2024  
 PDF print date: 05.11.2024  
 Bremsflüssigkeit DOT 5.1  
 Brake Fluid DOT 5.1

12.6. Endocrine disrupting properties:							Does not apply to mixtures.
12.7. Other adverse effects:							No information available on other adverse effects on the environment.
Other information:							DOC-elimination degree(complexing organic substance)>= 80%/28d: n.a.
Other information:	AOX		0	%			According to the recipe, contains no AOX.

**Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate**

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	>222,2	mg/l	Oncorhynchus mykiss	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to daphnia:	EC50	48h	>211,2	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to algae:	EC50	72h	>224,4	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
12.2. Persistence and degradability:	DOC	10d	>70	%	activated sludge	OECD 301 A (Ready Biodegradability - DOC Die-Away Test)	Readily biodegradable
Toxicity to bacteria:	EC50	30min	>1000	mg/l	activated sludge	OECD 209 (Activated Sludge, Respiration Inhibition Test (Carbon and Ammonium Oxidation))	

**2-[2-(2-butoxyethoxy)ethoxy]ethanol**

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	1305-4600	mg/l	Leuciscus idus		
12.1. Toxicity to fish:	LC50	96h	1350-2400	mg/l	Pimephales promelas		
12.1. Toxicity to daphnia:	EC50	48h	>500-2802	mg/l	Daphnia magna	Regulation (EC) 440/2008 C.2 (DAPHNIA SP. ACUTE IMMOBILISATION TEST)	
12.1. Toxicity to daphnia:	NOEC/NOEL	21d	>100	mg/l	Daphnia magna	OECD 211 (Daphnia magna Reproduction Test)	
12.1. Toxicity to algae:	EC50	72h	840	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
12.1. Toxicity to algae:	EC50	72h	>500	mg/l	Scenedesmus subspicatus		

Page 12 of 15  
 Safety data sheet according to Regulation (EC) No 1907/2006, Annex II (last amended by Regulation (EU) 2020/878)  
 Revision date / version: 05.11.2024 / 0017  
 Replacing version dated / version: 04.03.2024 / 0016  
 Valid from: 05.11.2024  
 PDF print date: 05.11.2024  
 Bremsflüssigkeit DOT 5.1  
 Brake Fluid DOT 5.1

12.2. Persistence and degradability:		14d	88	%		OECD 301 E (Ready Biodegradability - Modified OECD Screening Test)	
12.2. Persistence and degradability:		28d	76	%	activated sludge	OECD 301 D (Ready Biodegradability - Closed Bottle Test)	Readily biodegradable
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance
Toxicity to bacteria:	EC10	30min	>1995	mg/l	activated sludge	OECD 209 (Activated Sludge, Respiration Inhibition Test (Carbon and Ammonium Oxidation))	

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### For the substance / mixture / residual amounts

EC disposal code no.:

The waste codes are recommendations based on the scheduled use of this product. Owing to the user's specific conditions for use and disposal, other waste codes may be allocated under certain circumstances. (2014/955/EU)

16 01 13 brake fluids

Recommendation:

Sewage disposal shall be discouraged.

Pay attention to local and national official regulations.

E.g. dispose at suitable refuse site.

E.g. suitable incineration plant.

#### For contaminated packing material

Pay attention to local and national official regulations.

Empty container completely.

Untaminated packaging can be recycled.

Dispose of packaging that cannot be cleaned in the same manner as the substance.

## SECTION 14: Transport information

### General statements

#### Transport by road/by rail (ADR/RID)

14.1. UN number or ID number: Not applicable

14.2. UN proper shipping name:

Not applicable

14.3. Transport hazard class(es): Not applicable

14.4. Packing group: Not applicable

14.5. Environmental hazards: Not applicable

Tunnel restriction code: Not applicable

Classification code: Not applicable

LQ: Not applicable

Transport category: Not applicable

#### Transport by sea (IMDG-code)

14.1. UN number or ID number: Not applicable

14.2. UN proper shipping name:

Not applicable

14.3. Transport hazard class(es): Not applicable

Page 13 of 15  
 Safety data sheet according to Regulation (EC) No 1907/2006, Annex II (last amended by Regulation (EU) 2020/878)  
 Revision date / version: 05.11.2024 / 0017  
 Replacing version dated / version: 04.03.2024 / 0016  
 Valid from: 05.11.2024  
 PDF print date: 05.11.2024  
 Bremsflüssigkeit DOT 5.1  
 Brake Fluid DOT 5.1

14.4. Packing group: Not applicable  
 14.5. Environmental hazards: Not applicable  
 Marine Pollutant: Not applicable  
 EmS: Not applicable

**Transport by air (IATA)**

14.1. UN number or ID number: Not applicable  
 14.2. UN proper shipping name: Not applicable  
 14.3. Transport hazard class(es): Not applicable  
 14.4. Packing group: Not applicable  
 14.5. Environmental hazards: Not applicable

**14.6. Special precautions for user**

Unless specified otherwise, general measures for safe transport must be followed.

**14.7. Maritime transport in bulk according to IMO instruments**

Non-dangerous material according to Transport Regulations.

**SECTION 15: Regulatory information**

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

Observe restrictions:  
 Comply with national regulations/laws governing maternity protection (national implementation of the Directive 92/85/EEC)!  
 Regulation (EC) No 1907/2006, Annex XVII  
 2-(2-methoxyethoxy)ethanol  
 Comply with trade association/occupational health regulations.

Directive 2010/75/EU (VOC): 71,3 %

National requirements/regulations on safety and health protection must be applied when using work equipment.

**15.2 Chemical safety assessment**

A chemical safety assessment is not provided for mixtures.

**SECTION 16: Other information**

Revised sections: 8  
 These details refer to the product as it is delivered.  
 Employee instruction/training in handling hazardous materials is required.

**Classification and processes used to derive the classification of the mixture in accordance with the ordinance (EG) 1272/2008 (CLP):**

Classification in accordance with regulation (EC) No. 1272/2008 (CLP)	Evaluation method used
Repr. 2, H361fd	Classification according to calculation procedure.

The following phrases represent the posted Hazard Class and Risk Category Code (GHS/CLP) of the product and the constituents.  
 H360D May damage the unborn child.  
 H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.  
 H318 Causes serious eye damage.  
 H319 Causes serious eye irritation.

Repr. — Reproductive toxicity  
 Eye Dam. — Serious eye damage  
 Eye Irrit. — Eye irritation

**Key literature references and sources for data:**

Regulation (EC) No 1907/2006 (REACH) and Regulation (EC) No 1272/2008 (CLP) as amended.

Page 14 of 15  
 Safety data sheet according to Regulation (EC) No 1907/2006, Annex II (last amended by Regulation (EU) 2020/878)  
 Revision date / version: 05.11.2024 / 0017  
 Replacing version dated / version: 04.03.2024 / 0016  
 Valid from: 05.11.2024  
 PDF print date: 05.11.2024  
 Bremsflüssigkeit DOT 5.1  
 Brake Fluid DOT 5.1

Guidelines for the preparation of safety data sheets as amended (ECHA).  
 Guidelines on labelling and packaging according to the Regulation (EG) Nr. 1272/2008 (CLP) as amended (ECHA).  
 Safety data sheets for the constituent substances.  
 ECHA Homepage - Information about chemicals.  
 GESTIS Substance Database (Germany).  
 German Environment Agency "Rigoletto" information site on substances that are hazardous to water (Germany).  
 EU Occupation Exposure Limits Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, (EU) 2017/164, (EU) 2019/1831, each as amended.  
 National Lists of Occupational Exposure Limits for each country as amended.  
 Regulations on the transport of hazardous goods by road, rail, sea and air (ADR, RID, IMDG, IATA) as amended.

### Any abbreviations and acronyms used in this document:

acc., acc. to according, according to  
 ADR Accord européen relatif au transport international des marchandises Dangereuses par Route (= European Agreement concerning the International Carriage of Dangerous Goods by Road)  
 AOX Adsorbable organic halogen compounds  
 approx. approximately  
 Art., Art. no. Article number  
 ASTM ASTM International (American Society for Testing and Materials)  
 ATE Acute Toxicity Estimate  
 BAM Bundesanstalt für Materialforschung und -prüfung (= Federal Institute for Materials Research and Testing, Germany)  
 BAuA Bundesanstalt für Arbeitsschutz und Arbeitsmedizin (= Federal Institute for Occupational Health and Safety, Germany)  
 BCF Bioconcentration factor  
 BSEF The International Bromine Council  
 CAS Chemical Abstracts Service  
 CLP Classification, Labelling and Packaging (REGULATION (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures)  
 CMR carcinogenic, mutagenic, reproductive toxic  
 DMEL Derived Minimum Effect Level  
 DNEL Derived No Effect Level  
 DOC Dissolved organic carbon  
 e.g. for example (abbreviation of Latin 'exempli gratia'), for instance  
 EbCx, EyCx, EbLx (x = 10, 50) Effect Concentration/Level of x % on reduction of the biomass (algae, plants)  
 EC European Community  
 ECHA European Chemicals Agency  
 ECx, ELx (x = 0, 3, 5, 10, 20, 50, 80, 100) Effect Concentration/Level for x % effect  
 EEC European Economic Community  
 EINECS European Inventory of Existing Commercial Chemical Substances  
 ELINCS European List of Notified Chemical Substances  
 EN European Norms  
 EPA United States Environmental Protection Agency (United States of America)  
 ErCx, E<sub>u</sub>Cx, ErLx (x = 10, 50) Effect Concentration/Level of x % on inhibition of the growth rate (algae, plants)  
 etc. et cetera  
 EU European Union  
 EVAL Ethylene-vinyl alcohol copolymer  
 Fax. Fax number  
 gen. general  
 GHS Globally Harmonized System of Classification and Labelling of Chemicals  
 GWP Global warming potential  
 Koc Adsorption coefficient of organic carbon in the soil  
 Kow octanol-water partition coefficient  
 IARC International Agency for Research on Cancer  
 IATA International Air Transport Association  
 IBC (Code) International Bulk Chemical (Code)  
 IMDG-code International Maritime Code for Dangerous Goods  
 incl. including, inclusive  
 IUCLID International Uniform Chemical Information Database  
 IUPAC International Union for Pure Applied Chemistry  
 LC50 Lethal Concentration to 50 % of a test population  
 LD50 Lethal Dose to 50% of a test population (Median Lethal Dose)  
 Log Koc Logarithm of adsorption coefficient of organic carbon in the soil

Page 15 of 15

Safety data sheet according to Regulation (EC) No 1907/2006, Annex II (last amended by Regulation (EU) 2020/878)

Revision date / version: 05.11.2024 / 0017

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Bremsflüssigkeit DOT 5.1

Brake Fluid DOT 5.1

Log Kow, Log Pow            Logarithm of octanol-water partition coefficient  
LQ      Limited Quantities  
MARPOL            International Convention for the Prevention of Marine Pollution from Ships  
mg/kg bw            mg/kg body weight  
mg/kg bw/d, mg/kg bw/day    mg/kg body weight/day  
mg/kg dw            mg/kg dry weight  
mg/kg wwt            mg/kg wet weight  
n.a.      not applicable  
n.av.     not available  
n.c.      not checked  
n.d.a.    no data available  
NIOSH    National Institute for Occupational Safety and Health (USA)  
NLP      No-longer-Polymer  
NOEC, NOEL    No Observed Effect Concentration/Level  
OECD    Organisation for Economic Co-operation and Development  
org.      organic  
OSHA    Occupational Safety and Health Administration (USA)  
PBT      persistent, bioaccumulative and toxic  
PE       Polyethylene  
PNEC    Predicted No Effect Concentration  
ppm      parts per million  
PVC      Polyvinylchloride  
REACH    Registration, Evaluation, Authorisation and Restriction of Chemicals (REGULATION (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals)  
REACH-IT List-No.            6/7/8/9xx-xxx-x No. is automatically assigned, e.g. to pre-registrations without a CAS No. or other numerical identifier. List Numbers do not have any legal significance, rather they are purely technical identifiers for processing a submission via REACH-IT.  
RID      Règlement concernant le transport International ferroviaire de marchandises Dangereuses (= Regulation concerning the International Carriage of Dangerous Goods by Rail)  
SVHC    Substances of Very High Concern  
Tel.      Telephone  
TOC      Total organic carbon  
UN RTDG            United Nations Recommendations on the Transport of Dangerous Goods  
VOC      Volatile organic compounds  
vPvB    very persistent and very bioaccumulative

The statements made here should describe the product with regard to the necessary safety precautions - they are not meant to guarantee definite characteristics - but they are based on our present up-to-date knowledge.

No responsibility.

These statements were made by:

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