

Date printed 25.05.2022, Revision 25.05.2022

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

1.1 Product identifier

brake fluid DOT 4 PLUS

Article number: 99 90 0004, 32 92 3932, 32 92 3930

UFI: KD44-THTQ-T00H-AR7R

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

1.2.1 Relevant uses

brake fluid

1.2.2 Uses advised against

For all uses not specified in SECTION 1.2.1

1.3 Details of the supplier of the safety data sheet

Company SWAG Autoteile GmbH

Am Kiesberg 4-6

42117 Wuppertal / GERMANY Phone +49 (0)202 26454-0 Fax +49 (0)202 26454-5000 Homepage www.swag.de E-mail info@swag.de

Address enquiries to

Technical information info@swag.de Safety Data Sheet info@swag.de

1.4 Emergency telephone number

Advisory body +49 (0)89-19240 (24h) (English)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture [REGULATION (GB) CLP]

Repr. 2: H361d Suspected of damaging the unborn child.

2.2 Label elements

The product is required to be labelled in accordance with regulation CLP.

Hazard pictograms



Signal word WARNING

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

Hazard statements H361d Suspected of damaging the unborn child.

Precautionary statements 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.

P202 Do not handle until all safety precautions have been read and understood. 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 in accordance with local/national regulation.

2.3 Other hazards

Physico-chemical hazards Material will burn in fire.

Environmental hazards Does not contain any PBT or vPvB substances.

Other hazards none



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SECTION 3: Composition / Information on ingredients

Substances

not applicable

3.2 Mixtures

The product is a mixture.

Range [%]	Substance
30 - 90	Tris[2-(2-(2-methoxyethoxy)ethoxy)ethyl]orthoborate
	CAS: 30989-05-0, EINECS/ELINCS: 250-418-4, Reg-No.: 01-2119462824-33
	GHS/CLP: Repr. 2: H361d
5 - 9.9	2-(2-(2-Butoxyethoxy)ethoxy)ethanol
	CAS: 143-22-6, EINECS/ELINCS: 205-592-6, EU-INDEX: 603-183-00-0, Reg-No.: 01-2119531322-53-XXXX
	GHS/CLP: Eye Dam. 1: H318
	SCL [%]: >=30: Eye Dam. 1: H318, 20 - <30: Eye Irrit. 2: H319
0 - 5	Poly(oxy-1,2-ethanediyl), α-butyl-ω-hydroxy
	CAS: 9004-77-7, EINECS/ELINCS: 500-012-0, Reg-No.: 01-2119475115-41-XXXX
	GHS/CLP: Eye Dam. 1: H318
	SCL [%]: >= 30: Eye Dam. 1: H318, 20 - <30: Eye Irrit. 2: H319
0 -2.99	2-(2-Methoxyethoxy)ethanol
	CAS: 111-77-3, EINECS/ELINCS: 203-906-6, EU-INDEX: 603-107-00-6, Reg-No.: 01-2119475100-52-XXXX
	GHS/CLP: Repr. 2: H361d

Comment on component parts

Substances of Very High Concern - SVHC: substances are not contained or are below 0.1%.

For full text of H-statements and R-phrases: see SECTION 16.

SECTION 4: First aid measures

Description of first aid measures

General information Take off contaminated clothing and wash before reuse.

Inhalation Ensure supply of fresh air.

In the event of symptoms seek medical treatment.

Skin contact When in contact with the skin, clean with soap and water.

Consult a doctor if skin irritation persists.

Eye contact Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy

to do. Continue rinsing.

If eye irritation persists: Get medical advice/attention.

Ingestion Seek medical advice immediately.

Do not induce vomiting.

Rinse out mouth and give plenty of water to drink.

4.2 Most important symptoms and effects, both acute and delayed

No information available.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

Forward this sheet to your doctor.

SECTION 5: Fire-fighting measures

Extinguishing media

Suitable extinguishing media Foam, dry powder, water spray jet, carbon dioxide

Extinguishing media that must not

be used

Full water jet



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5.2 Special hazards arising from the substance or mixture

Not combusted hydrocarbons.

Risk of formation of toxic pyrolysis products.

Carbon monoxide (CO)

5.3 Advice for firefighters

Use self-contained breathing apparatus.

Collect contaminated firefighting water separately, must not be discharged into the drains. Fire residues and contaminated firefighting water must be disposed of in accordance within the local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation.

High risk of slipping due to leakage/spillage of product.

Forms slippery surfaces with water.

6.2 Environmental precautions

Prevent spread over a wide area (e.g. by containment or oil barriers).

Do not discharge into the drains/surface waters/groundwater.

6.3 Methods and material for containment and cleaning up

Take up with absorbent material (e.g. general-purpose binder). Dispose of absorbed material in accordance within the regulations.

6.4 Reference to other sections

See SECTION 8+13

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Use only in well-ventilated areas.

The product is combustible.

Do not eat, drink or smoke when using this product.

Use barrier skin cream.

Wash hands before breaks and after work.

Contaminated work clothing should not be allowed out of the workplace.

Take off contaminated clothing and wash before reuse.

7.2 Conditions for safe storage, including any incompatibilities

Keep only in original container.

Prevent penetration into the ground.

Do not store together with oxidizing agents.

Do not store together with food and animal food/diet.

Keep in a cool place. Store in a dry place.

Keep container tightly closed. Protect from heat/overheating.

Keep container in a well-ventilated place. Recommended storage temperature: 18 - 23°C

7.3 Specific end use(s)

See product use, SECTION 1.2



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SECTION 8: Exposure controls / personal protection

8.1 Control parameters

Ingredients with occupational exposure limits to be monitored (GB)

Substance

2-(2-Methoxyethoxy)ethanol

CAS: 111-77-3, EINECS/ELINCS: 203-906-6, EU-INDEX: 603-107-00-6, Reg-No.: 01-2119475100-52-XXXX

Long-term exposure: 10 ppm, 50,1 mg/m³, Sk

Ingredients with occupational exposure limits to be monitored (EU)

Substance / EC LIMIT VALUES

2-(2-Methoxyethoxy)ethanol

CAS: 111-77-3, EINECS/ELINCS: 203-906-6, EU-INDEX: 603-107-00-6, Reg-No.: 01-2119475100-52-XXXX

Eight hours: 10 ppm, 50,1 mg/m³, H

DNEL

Industrial, dermal, Long-term - local effects, 5.65 mg/cm² Industrial, inhalative, Long-term - systemic effects, 24 mg/m³ Industrial, inhalative, Acute - systemic effects, 96 mg/m³ Industrial, inhalative, Long-term - local effects, 30.5 mg/m³ Industrial, inhalative, Acute - local effects, 96 mg/m³ Industrial, dermal, Acute - systemic effects, 96 mg/m³ Industrial, dermal, Acute - systemic effects, 400 mg/kg bw/day Industrial, dermal, Long-term - systemic effects, 208 mg/kg bw/day Industrial, dermal, Long-term - systemic effects, 208 mg/kg bw/day general population, oral, Acute - systemic effects, 208 mg/kg bw/day general population, dermal, Long-term - local effects, 2.823 mg/cm² general population, dermal, Long-term - systemic effects, 12.5 mg/kg bw/day general population, dermal, Acute - local effects, 4.173 mg/cm² general population, inhalative, Long-term - systemic effects, 12 mg/m³ general population, inhalative, Long-term - local effects, 12.52 mg/mg/m³ general population, inhalative, Long-term - local effects, 15.252 mg/m³ general population, inhalative, Acute - local effects, 48 mg/m³ general population, inhalative, Acute - local effects, 48 mg/m³ general population, inhalative, Acute - systemic effects, 125 mg/kg bw/day general population, inhalative, Acute - systemic effects, 48 mg/m³ 2-(2-Methoxyethoxyethoxy)ethanol, CAS: 111-77-3 Industrial, dermal, Long-term - systemic effects, 5.0.1 mg/m³ general population, inhalative, Long-term - systemic effects, 7.5 mg/kg bw/day Industrial, inhalative, Long-term - systemic effects, 3.0.1 mg/m³ general population, inhalative, Long-term - systemic effects, 3.0.1 mg/m³ general population, inhalative, Long-term - systemic effects, 13.3 mg/kg bw/day Industrial, dermal, Long-term - systemic effects, 13.3 mg/kg bw/day Industrial, dermal, Long-term - systemic effects, 13.3 mg/kg bw/day Industrial, inhalative, Long-term - systemic effects, 195 mg/kg	Substance
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general population, dermal, Acute - local effects, 4.173 mg/cm² general population, inhalative, Long-term - systemic effects, 12 mg/m³ general population, dermal, Acute - systemic effects, 200 mg/kg bw/day general population, inhalative, Long-term - local effects, 15.252 mg/m³ general population, inhalative, Acute - local effects, 15.252 mg/m³ general population, dermal, Long-term - systemic effects, 125 mg/kg bw/day general population, inhalative, Acute - systemic effects, 125 mg/kg bw/day general population, inhalative, Acute - systemic effects, 48 mg/m³ 2-(2-Methoxyethoxy)ethanol, CAS: 111-77-3 Industrial, dermal, Long-term - systemic effects, 2.22 mg/kg bw/day Industrial, inhalative, Long-term - systemic effects, 50.1 mg/m³ general population, oral, Long-term - systemic effects, 7.5 mg/kg bw/day general population, inhalative, Long-term - systemic effects, 30.1 mg/m³ general population, dermal, Long-term - systemic effects, 1.33 mg/kg bw/day Poly(oxy-1,2-ethanediyl), α-butyl-ω-hydroxy, CAS: 9004-77-7 Industrial, inhalative, Long-term - systemic effects, 208 mg/kg bw/day Industrial, inhalative, Long-term - systemic effects, 195 mg/m³	general population, dermal, Long-term - local effects, 2.823 mg/cm ²
general population, inhalative, Long-term - systemic effects, 12 mg/m³ general population, dermal, Acute - systemic effects, 200 mg/kg bw/day general population, inhalative, Long-term - local effects, 15.252 mg/m³ general population, inhalative, Acute - local effects, 48 mg/m³ general population, dermal, Long-term - systemic effects, 125 mg/kg bw/day general population, inhalative, Acute - systemic effects, 48 mg/m³ 2-(2-Methoxyethoxy)ethanol, CAS: 111-77-3 Industrial, dermal, Long-term - systemic effects, 2.22 mg/kg bw/day Industrial, inhalative, Long-term - systemic effects, 50.1 mg/m³ general population, oral, Long-term - systemic effects, 7.5 mg/kg bw/day general population, inhalative, Long-term - systemic effects, 30.1 mg/m³ general population, dermal, Long-term - systemic effects, 1.33 mg/kg bw/day Poly(oxy-1,2-ethanediyl), α-butyl-ω-hydroxy, CAS: 9004-77-7 Industrial, inhalative, Long-term - systemic effects, 208 mg/kg bw/day Industrial, inhalative, Long-term - systemic effects, 195 mg/m³	general population, oral, Long-term - systemic effects, 12.5 mg/kg bw/day
general population, dermal, Acute - systemic effects, 200 mg/kg bw/day general population, inhalative, Long-term - local effects, 15.252 mg/m³ general population, inhalative, Acute - local effects, 48 mg/m³ general population, dermal, Long-term - systemic effects, 125 mg/kg bw/day general population, inhalative, Acute - systemic effects, 48 mg/m³ 2-(2-Methoxyethoxy)ethanol, CAS: 111-77-3 Industrial, dermal, Long-term - systemic effects, 2.22 mg/kg bw/day Industrial, inhalative, Long-term - systemic effects, 50.1 mg/m³ general population, oral, Long-term - systemic effects, 7.5 mg/kg bw/day general population, inhalative, Long-term - systemic effects, 30.1 mg/m³ general population, dermal, Long-term - systemic effects, 1.33 mg/kg bw/day Poly(oxy-1,2-ethanediyl), α-butyl-ω-hydroxy, CAS: 9004-77-7 Industrial, dermal, Long-term - systemic effects, 208 mg/kg bw/day Industrial, inhalative, Long-term - systemic effects, 195 mg/m³	general population, dermal, Acute - local effects, 4.173 mg/cm ²
general population, inhalative, Long-term - local effects, 15.252 mg/m³ general population, inhalative, Acute - local effects, 48 mg/m³ general population, dermal, Long-term - systemic effects, 125 mg/kg bw/day general population, inhalative, Acute - systemic effects, 48 mg/m³ 2-(2-Methoxyethoxy)ethanol, CAS: 111-77-3 Industrial, dermal, Long-term - systemic effects, 2.22 mg/kg bw/day Industrial, inhalative, Long-term - systemic effects, 50.1 mg/m³ general population, oral, Long-term - systemic effects, 7.5 mg/kg bw/day general population, inhalative, Long-term - systemic effects, 30.1 mg/m³ general population, dermal, Long-term - systemic effects, 1.33 mg/kg bw/day Poly(oxy-1,2-ethanediyl), α-butyl-ω-hydroxy, CAS: 9004-77-7 Industrial, dermal, Long-term - systemic effects, 208 mg/kg bw/day Industrial, inhalative, Long-term - systemic effects, 195 mg/m³	general population, inhalative, Long-term - systemic effects, 12 mg/m³
general population, inhalative, Acute - local effects, 48 mg/m³ general population, dermal, Long-term - systemic effects, 125 mg/kg bw/day general population, inhalative, Acute - systemic effects, 48 mg/m³ 2-(2-Methoxyethoxy)ethanol, CAS: 111-77-3 Industrial, dermal, Long-term - systemic effects, 2.22 mg/kg bw/day Industrial, inhalative, Long-term - systemic effects, 50.1 mg/m³ general population, oral, Long-term - systemic effects, 7.5 mg/kg bw/day general population, inhalative, Long-term - systemic effects, 30.1 mg/m³ general population, dermal, Long-term - systemic effects, 1.33 mg/kg bw/day Poly(oxy-1,2-ethanediyl), α-butyl-ω-hydroxy, CAS: 9004-77-7 Industrial, dermal, Long-term - systemic effects, 208 mg/kg bw/day Industrial, inhalative, Long-term - systemic effects, 195 mg/m³	general population, dermal, Acute - systemic effects, 200 mg/kg bw/day
general population, dermal, Long-term - systemic effects, 125 mg/kg bw/day general population, inhalative, Acute - systemic effects, 48 mg/m³ 2-(2-Methoxyethoxy)ethanol, CAS: 111-77-3 Industrial, dermal, Long-term - systemic effects, 2.22 mg/kg bw/day Industrial, inhalative, Long-term - systemic effects, 50.1 mg/m³ general population, oral, Long-term - systemic effects, 7.5 mg/kg bw/day general population, inhalative, Long-term - systemic effects, 30.1 mg/m³ general population, dermal, Long-term - systemic effects, 1.33 mg/kg bw/day Poly(oxy-1,2-ethanediyl), α-butyl-ω-hydroxy, CAS: 9004-77-7 Industrial, dermal, Long-term - systemic effects, 208 mg/kg bw/day Industrial, inhalative, Long-term - systemic effects, 195 mg/m³	general population, inhalative, Long-term - local effects, 15.252 mg/m³
general population, inhalative, Acute - systemic effects, 48 mg/m³ 2-(2-Methoxyethoxy)ethanol, CAS: 111-77-3 Industrial, dermal, Long-term - systemic effects, 2.22 mg/kg bw/day Industrial, inhalative, Long-term - systemic effects, 50.1 mg/m³ general population, oral, Long-term - systemic effects, 7.5 mg/kg bw/day general population, inhalative, Long-term - systemic effects, 30.1 mg/m³ general population, dermal, Long-term - systemic effects, 1.33 mg/kg bw/day Poly(oxy-1,2-ethanediyl), α-butyl-ω-hydroxy, CAS: 9004-77-7 Industrial, dermal, Long-term - systemic effects, 208 mg/kg bw/day Industrial, inhalative, Long-term - systemic effects, 195 mg/m³	general population, inhalative, Acute - local effects, 48 mg/m³
2-(2-Methoxyethoxy)ethanol, CAS: 111-77-3 Industrial, dermal, Long-term - systemic effects, 2.22 mg/kg bw/day Industrial, inhalative, Long-term - systemic effects, 50.1 mg/m³ general population, oral, Long-term - systemic effects, 7.5 mg/kg bw/day general population, inhalative, Long-term - systemic effects, 30.1 mg/m³ general population, dermal, Long-term - systemic effects, 1.33 mg/kg bw/day Poly(oxy-1,2-ethanediyl), α-butyl-ω-hydroxy, CAS: 9004-77-7 Industrial, dermal, Long-term - systemic effects, 208 mg/kg bw/day Industrial, inhalative, Long-term - systemic effects, 195 mg/m³	general population, dermal, Long-term - systemic effects, 125 mg/kg bw/day
Industrial, dermal, Long-term - systemic effects, 2.22 mg/kg bw/day Industrial, inhalative, Long-term - systemic effects, 50.1 mg/m³ general population, oral, Long-term - systemic effects, 7.5 mg/kg bw/day general population, inhalative, Long-term - systemic effects, 30.1 mg/m³ general population, dermal, Long-term - systemic effects, 1.33 mg/kg bw/day Poly(oxy-1,2-ethanediyl), α-butyl-ω-hydroxy, CAS: 9004-77-7 Industrial, dermal, Long-term - systemic effects, 208 mg/kg bw/day Industrial, inhalative, Long-term - systemic effects, 195 mg/m³	general population, inhalative, Acute - systemic effects, 48 mg/m³
Industrial, inhalative, Long-term - systemic effects, 50.1 mg/m³ general population, oral, Long-term - systemic effects, 7.5 mg/kg bw/day general population, inhalative, Long-term - systemic effects, 30.1 mg/m³ general population, dermal, Long-term - systemic effects, 1.33 mg/kg bw/day Poly(oxy-1,2-ethanediyl), α-butyl-ω-hydroxy, CAS: 9004-77-7 Industrial, dermal, Long-term - systemic effects, 208 mg/kg bw/day Industrial, inhalative, Long-term - systemic effects, 195 mg/m³	2-(2-Methoxyethoxy)ethanol, CAS: 111-77-3
general population, oral, Long-term - systemic effects, 7.5 mg/kg bw/day general population, inhalative, Long-term - systemic effects, 30.1 mg/m³ general population, dermal, Long-term - systemic effects, 1.33 mg/kg bw/day Poly(oxy-1,2-ethanediyl), α-butyl-ω-hydroxy, CAS: 9004-77-7 Industrial, dermal, Long-term - systemic effects, 208 mg/kg bw/day Industrial, inhalative, Long-term - systemic effects, 195 mg/m³	Industrial, dermal, Long-term - systemic effects, 2.22 mg/kg bw/day
general population, inhalative, Long-term - systemic effects, 30.1 mg/m³ general population, dermal, Long-term - systemic effects, 1.33 mg/kg bw/day Poly(oxy-1,2-ethanediyl), α-butyl-ω-hydroxy, CAS: 9004-77-7 Industrial, dermal, Long-term - systemic effects, 208 mg/kg bw/day Industrial, inhalative, Long-term - systemic effects, 195 mg/m³	Industrial, inhalative, Long-term - systemic effects, 50.1 mg/m³
general population, dermal, Long-term - systemic effects, 1.33 mg/kg bw/day Poly(oxy-1,2-ethanediyl), α-butyl-ω-hydroxy, CAS: 9004-77-7 Industrial, dermal, Long-term - systemic effects, 208 mg/kg bw/day Industrial, inhalative, Long-term - systemic effects, 195 mg/m³	general population, oral, Long-term - systemic effects, 7.5 mg/kg bw/day
Poly(oxy-1,2-ethanediyl), α-butyl-ω-hydroxy, CAS: 9004-77-7 Industrial, dermal, Long-term - systemic effects, 208 mg/kg bw/day Industrial, inhalative, Long-term - systemic effects, 195 mg/m³	general population, inhalative, Long-term - systemic effects, 30.1 mg/m³
Industrial, dermal, Long-term - systemic effects, 208 mg/kg bw/day Industrial, inhalative, Long-term - systemic effects, 195 mg/m³	general population, dermal, Long-term - systemic effects, 1.33 mg/kg bw/day
Industrial, inhalative, Long-term - systemic effects, 195 mg/m³	Poly(oxy-1,2-ethanediyl), α-butyl-ω-hydroxy, CAS: 9004-77-7
	Industrial, dermal, Long-term - systemic effects, 208 mg/kg bw/day
general population, dermal, Long-term - systemic effects, 125 mg/kg bw/day	Industrial, inhalative, Long-term - systemic effects, 195 mg/m³
	general population, dermal, Long-term - systemic effects, 125 mg/kg bw/day
general population, inhalative, Long-term - systemic effects, 117 mg/m³	general population, inhalative, Long-term - systemic effects, 117 mg/m³



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general population, oral, Long-term - systemic effects, 12.5 mg/kg bw/day
Tris[2-(2-(2-methoxyethoxy)ethoxy)ethyl]orthoborate, CAS: 30989-05-0
Industrial, inhalative, Long-term - systemic effects, 14.8 mg/m³ (AF=25)
Industrial, dermal, Long-term - systemic effects, 4.2 mg/kg bw/d (AF=100)
general population, inhalative, Long-term - systemic effects, 2.6 mg/m³ (AF=50)
general population, oral, Long-term - systemic effects, 1.5 mg/kg bw/d (AF=200)
general population, dermal Long-term - systemic effects, 1.5 mg/kg hw/d (AE-200)

PNEC

Substance
2-(2-(2-Butoxyethoxy)ethoxy)ethanol, CAS: 143-22-6
sediment (seawater), 770 - 1111.5 μg/kg sediment dw
sediment (freshwater), 7.7 - 11.115 mg/kg sediment dw
sewage treatment plants (STP), 199.5 - 200 mg/L
seawater, 200 - 142570 μg/L
freshwater, 2 - 100 mg/L
soil, 470 - 11510 µg/kg soil dw
2-(2-Methoxyethoxy)ethanol, CAS: 111-77-3
seawater, 1.2 mg/L
sewage treatment plants (STP), 10000 mg/L
sediment (freshwater), 44.4 mg/kg sediment dw
sediment (seawater), 0.44 mg/kg sediment dw
freshwater, 12 mg/L
terrestrial, 2.1 mg/kg
oral (food), 0.09 g/kg
Poly(oxy-1,2-ethanediyl), α-butyl-ω-hydroxy, CAS: 9004-77-7
sediment (freshwater), 6.6 mg/kg sediment dw
freshwater, 4.5 mg/L
sewage treatment plants (STP), 500 mg/L
sediment (seawater), 660 μg/kg sediment dw
soil, 1.02 - 1.32 mg/kg soil dw
oral (food), 111 - 333 mg/kg food
seawater, 310 μg/L



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8.2 Exposure controls

Additional advice on system design Ensure adequate ventilation on workstation.

Measurement methods for taking workplace measurements must meet the performance requirements of DIN EN 482. For example, recommendations are given in the IFA's list of

hazardous substances.

Eye protection safety glasses

Hand protection The details concerned are recommendations. Please contact the glove supplier for further

information.

> 0.4 mm; Nitrile rubber, >480 min (EN 374-1/-2/-3). > 0.4 mm; Butyl rubber, >480 min (EN 374-1/-2/-3).

Skin protection Oil-resistant protective clothing.

Other Personal protective equipment should be selected specifically for the working place,

depending on concentration and quantity handled. The resistance of this equipment to

chemicals should be ascertained with the respective supplier.

Avoid contact with eyes and skin.

Do not inhale vapours.

Respiratory protection In the event of occupational exposure limits being exceeded or of inadequate ventilation: wear

appropriate respiratory protection.

Short term: filter apparatus, filter A. (DIN EN 14387)

Thermal hazards none

Delimitation and monitoring of the

environmental exposition

Comply with applicable environmental regulations limiting discharge to air, water and soil.



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SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state liquid

Coloramber colourOdorcharacteristicOdour thresholdnot applicablepH-value7 - 11.5

pH-value [1%] No information available.

Boiling point [°C] > 260
Flash point [°C] > 120
Flammability (solid, gas) [°C] > 280

Lower explosion limitNo information available.Upper explosion limitNo information available.

Oxidising properties no
Vapour pressure/gas pressure [kPa] 1 mbar
Density [g/cm³] ca. 1.07
Relative density not determined
Bulk density [kg/m³] not applicable
Solubility in water miscible

Solubility other solvents No information available.

Partition coefficient [n-octanol/water] 1.5

Kinematic viscosity max. 1500 cSt (-40°C)

min. 1.5 cSt (100°C) 5 - 10 cSt (20°C)

Relative vapour density

No information available.

Evaporation speed

No information available.

Melting point [°C] < -50
Auto-ignition temperature > 280°C
Decomposition temperature [°C] 300

Particle characteristics No information available.

9.2 Other information

No information available.

SECTION 10: Stability and reactivity

10.1 Reactivity

No dangerous reactions known if used as directed.

10.2 Chemical stability

Stable under normal ambient conditions (ambient temperature). Decomposes begins at ca. 360 °C.

10.3 Possibility of hazardous reactions

Reactions with oxidizing agents. The product is hygroscopic.

10.4 Conditions to avoid

See SECTION 7.2.



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10.5 Incompatible materials

Oxidizing agent

10.6 Hazardous decomposition products

No hazardous decomposition products known.



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SECTION 11: Toxicological information

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

Acute oral toxicity

Product
ATE-mix, Rat, > 5000 mg/kg bw
Substance
2-(2-(2-Butoxyethoxy)ethoxy)ethanol, CAS: 143-22-6
LD50, oral, Rat, 5000 - 11300 mg/kg bw
LD0, oral, Rat, 5 mL/kg bw
2-(2-Methoxyethoxy)ethanol, CAS: 111-77-3
LD50, oral, Rat, 7128 mg/kg
Poly(oxy-1,2-ethanediyl), α-butyl-ω-hydroxy, CAS: 9004-77-7
LD50, oral, Rat, 2000 - 2630 mg/kg bw
Tris[2-(2-(2-methoxyethoxy)ethoxy)ethyl]orthoborate, CAS: 30989-05-0
LD50, oral, Rat, > 2000 mg/kg bw, OECD 401

Acute dermal toxicity

Product		
ATE-mix, Rabbit, > 3000mg/kg bw		
Substance		
2-(2-(2-Butoxyethoxy)ethoxy)ethanol, CAS: 143-22-6		
LC50, dermal, Rabbit, 3540 mg/kg bw		
LDLo, dermal, Rabbit, 2000 mg/kg bw		
2-(2-Methoxyethoxy)ethanol, CAS: 111-77-3		
LD50, dermal, Rabbit, 9404 mg/kg		
Poly(oxy-1,2-ethanediyl), α-butyl-ω-hydroxy, CAS: 9004-77-7		
LD50, dermal, Rabbit, 3540 mg/kg bw		
Tris[2-(2-(2-methoxyethoxy)ethoxy)ethyl]orthoborate, CAS: 30989-05-0		
LD50, dermal, Rat, > 2000 mg/kg bw		

Acute inhalational toxicity

Substance	
2-(2-(2-Butoxyethoxy)ethoxy)ethanol, CAS: 143-22-6	
LC50, inhalative, Rat, 2.4 mg/L air	
LCLO, inhalative, Rat, 1.2 mg/L air, 8h	
2-(2-Methoxyethoxy)ethanol, CAS: 111-77-3	
LC0, inhalation (vapour), Rat, > 1.2 mg/l 6h	

Serious eye damage/irritation

Toxicological data of complete product are not available. No classification.

Substance	

2-(2-Methoxyethoxy)ethanol, CAS: 111-77-3

Calculation method

Eye, non-irritating

Skin corrosion/irritation

Based on the available information, the classification criteria are not fulfilled.



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Substance

2-(2-Methoxyethoxy)ethanol, CAS: 111-77-3

dermal, non-irritating

Respiratory or skin sensitisation Based on the available information, the classification criteria are not fulfilled.

Substance

2-(2-Methoxyethoxy)ethanol, CAS: 111-77-3

dermal, non-sensitizing

Specific target organ toxicity —

single exposure

Based on the available information, the classification criteria are not fulfilled.

Specific target organ toxicity — repeated exposure

Based on the available information, the classification criteria are not fulfilled.

Substance

2-(2-(2-Butoxyethoxy)ethoxy)ethanol, CAS: 143-22-6

NOAEL, dermal, Rat, 5000 mg/kg bw/day

NOAEL, oral, Rat, 500 mg/kg bw/day

Mutagenicity Based on the available information, the classification criteria are not fulfilled.

Reproduction toxicity Suspected of damaging the unborn child.

Calculation method

Substance

2-(2-Methoxyethoxy)ethanol, CAS: 111-77-3

NOAEL, dermal, Rabbit, 50 mg/kg bw/day, adverse effect observed, Effect on developmental toxicity,

NOAEL, oral, 200 mg/kg bw/day, adverse effect observed, Effect on developmental toxicity,

Carcinogenicity Based on the available information, the classification criteria are not fulfilled.

Aspiration hazard

Based on the available information, the classification criteria are not fulfilled.

General remarks

Toxicological data of complete product are not available.

The toxicity data listed pertaining to the ingredients are intended for those working in the medicinal professions, experts for occupational health and safety and toxicologists.

11.2 Information on other hazards

Endocrine disrupting properties

No information available.

Other information

none



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SECTION 12: Ecological information

12.1 Toxicity

Substance
2-(2-(2-Butoxyethoxy)ethoxy)ethanol, CAS: 143-22-6
LC50, (48h), fish, 2.4 g/L
LC50, (24h), fish, 2.4 - 2.967 g/L
LC50, (96h), fish, 2.182 - 14.257 g/L
EC50, (72h), Algae, 500 - 3211 mg/L
EC50, (21d), Invertebrates, 518.3 mg/L
IC50, (16h), Water microorganisms, 5 g/L
LC0, (96h), fish, 2.15 g/L
NOEC, (21d), Invertebrates, 97.7 - 174.6 mg/L
NOEC, (21d), fish, 174.6 mg/L
NOEC, (72h), Algae, 62.5 - 499 mg/L
LC100, (96h), fish, 4.6 g/L
EC10, (21d), Invertebrates, 233.9 - 235.6 mg/L
EC10, (72h), Algae, 151 - 1185 mg/L
EC20, (72h), Algae, 270 - 364 mg/L
2-(2-Methoxyethoxy)ethanol, CAS: 111-77-3
LC50, (96h), Pimephales promelas, 5741 mg/L
EC50, (96h), Pseudokirchneriella subcapitata, > 1000 mg/L
EC50, (48h), Daphnia magna, 1192 mg/L
Poly(oxy-1,2-ethanediyl), α-butyl-ω-hydroxy, CAS: 9004-77-7
LC50, (96h), fish, 1.8 g/L
EC50, (72h), Algae, 391 mg/L
EC50, (48h), Acartia tonsa, 310 mg/L

12.2 Persistence and degradability

Behaviour in environment not determined

compartments

Behaviour in sewage plant

not determined

Biological degradability

The product is biodegradable.

12.3 Bioaccumulative potential

No information available.

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

Based on all available information not to be classified as PBT or vPvB respectively.

12.6 Endocrine disrupting properties

No information available.



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12.7 Other adverse effects

Ecological data of complete product are not available.

Do not discharge product unmonitored into the environment or into the drainage.

The toxicity data pertaining to the ingredients were supplied by the manufacturers of raw materials.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. It is not possible to determine a waste code for this product in accordance with the European Waste Catalogue (EWC) since it is only possible to classify it according to how it is used by the customer. The waste code is to be determined within the EU in liaison with the waste-disposal operator.

Product

Coordinate disposal with the disposal contractor/authorities if necessary.

Waste no. (recommended) 160113*

Contaminated packaging

Packaging that cannot be cleaned should be disposed of as for product.

Uncontaminated packaging may be taken for recycling.

Waste no. (recommended) 150102

150104

150110* packaging containing residues of or contaminated by hazardous substances

SECTION 14: Transport information

14.1 UN number or ID number

Transport by land according to

ADR/RID

not applicable

Inland navigation (ADN) not applicable

Marine transport in accordance with

not applicable

Air transport in accordance with IATA not applicable

14.2 UN proper shipping name

Transport by land according to

NO DANGEROUS GOODS

ADR/RID

Inland navigation (ADN) NO DANGEROUS GOODS

IMDG

Marine transport in accordance with NOT CLASSIFIED AS "DANGEROUS GOODS"

Air transport in accordance with IATA NOT CLASSIFIED AS "DANGEROUS GOODS"



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14.3 Transport hazard class(es)

Transport by land according to

ADR/RID

not applicable

Inland navigation (ADN)

not applicable

Marine transport in accordance with

IMDG

Air transport in accordance with IATA not applicable

14.4 Packing group

ADR/RID

Transport by land according to

not applicable

Inland navigation (ADN)

not applicable

Marine transport in accordance with not applicable

IMDG

Air transport in accordance with IATA not applicable

14.5 Environmental hazards

Transport by land according to

ADR/RID

nο

no

Inland navigation (ADN)

Marine transport in accordance with no **IMDG**

Air transport in accordance with IATA no

14.6 Special precautions for user

Relevant information under SECTION 6 to 8.

14.7 Maritime transport in bulk according to IMO instruments

not applicable

SECTION 15: Regulatory information

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

EEC-REGULATIONS 2008/98/EC 2000/532/EC); 2010/75/EU; 2004/42/EC; (EC) 648/2004; (EC) 1907/2006

(REACH); (EU) 1272/2008; 75/324/EEC ((EC) 2016/2037); (EU) 2020/878; (EU) 2016/131;

(EU) 517/2014

TRANSPORT-REGULATIONS ADR (2021); IMDG-Code (2021, 40. Amdt.); IATA-DGR (2022)

NATIONAL REGULATIONS (GB): EH40/2005 Workplace exposure limits (Second edition, published December 2011); UK

REACH; GB CLP.

- Observe employment restrictions

for people

Observe employment restrictions for young people.

Observe employment restrictions for mothers-to-be and nursing mothers.

- VOC (2010/75/CE)



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15.2 Chemical safety assessment

not applicable

SECTION 16: Other information

16.1 Hazard statements (SECTION 3)

H318 Causes serious eye damage.

H361d Suspected of damaging the unborn child.

16.2 Abbreviations and acronyms:

ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route

RID = Règlement concernant le transport international ferroviaire de marchandises

dangereuses

ADN = Accord européen relatif au transport international des marchandises dangereuses par

voie de navigation intérieure ATE = acute toxicity estimate

CAS = Chemical Abstracts Service

CLP = Classification, Labelling and Packaging

DMEL = Derived Minimum Effect Level

DNEL = Derived No Effect Level

EC50 = Median effective concentration

ECB = European Chemicals Bureau

EEC = European Economic Community

EINECS = European Inventory of Existing Commercial Chemical Substances

EL50 = Median effective loading

ELINCS = European List of Notified Chemical Substances

EmS = Emergency Schedules

GHS = Globally Harmonized System of Classification and Labelling of Chemicals

IATA = International Air Transport Association

IBC-Code = International Code for the Construction and Equipment of Ships carrying

Dangerous Chemicals in Bulk

IC50 = Inhibition concentration, 50%

IMDG = International Maritime Code for Dangerous Goods

IUCLID = International Uniform ChemicaL Information Database

IVIS = In vitro irritation score

LC50 = Lethal concentration, 50%

LD50 = Median lethal dose

LC0 = lethal concentration, 0%

LOAEL = lowest-observed-adverse-effect level

LL50 = Median lethal loading

LQ = Limited Quantities

MARPOL = International Convention for the Prevention of Marine Pollution from Ships

NOAEL = No Observed Adverse Effect Level

NOEC = No Observed Effect Concentration

PBT = Persistent, Bioaccumulative and Toxic substance

PNEC = Predicted No-Effect Concentration

REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals

STP = Sewage Treatment Plant

TLV®/TWA = Threshold limit value – time-weighted average TLV®STEL = Threshold limit value – short-time exposure limit

VOC = Volatile Organic Compounds

vPvB = very Persistent and very Bioaccumulative

16.3 Other information

Classification procedure Repr. 2: H361d Suspected of damaging the unborn child. (Calculation method)

Modified position none