DOT 3 Brake Fluid

Safety Data Sheet

According to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Date of Issue: 29/01/2021 Version: 1.0

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

1.1. Product identifier

Product Form : Mixture

Product Name : DOT 3 Brake Fluid

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

1.2.1. Relevant identified uses

Industrial/Professional use spec : Industrial.
For professional use only.

Use of the substance/mixture : No use is specified.

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Company

TC Chemicals, LLC
1871 Mykawa Road
Pearland, TX 77581
PH: 281-412-0275
sds@thirdcoast.com

1.4. Emergency telephone number

Emergency number : +1-800-424-9300
CHEMTREC – TOLL FREE 24 HOUR EMERGENCY TELEPHONE NUMBER

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification According to Regulation (EC) No. 1272/2008 [CLP]

Eye Dam. 1	H318
STOT RE 2	H373

Full text of hazard classes and H-statements : see section 16

2.2. Label elements

Labelling According to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :

GHS05

GHS08

Signal word (CLP) : Danger

Hazard statements (CLP) : H318 - Causes serious eye damage.
H373 - May cause damage to organs (Kidneys) through prolonged or repeated exposure (Oral).

Precautionary statements (CLP) : P260 - Do not breathe mist, spray, vapours.
P280 - Wear eye protection, face protection, protective clothing.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 - Immediately call a POISON CENTER or doctor.
P314 - Get medical advice/attention if you feel unwell.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards

PBT: not relevant – no registration required

vPvB: not relevant – no registration required

Other hazards not contributing to the classification : Exposure may aggravate pre-existing eye, skin, or respiratory conditions.

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification According to Regulation (EC) No. 1272/2008 [CLP]
Triethylene glycol monobutyl ether	(CAS-No.) 143-22-6 (EC-No.) 205-592-6 (EC Index-No.) 603-183-00-0	23 – 35	Eye Dam. 1, H318
Diethylene glycol	(CAS-No.) 111-46-6 (EC-No.) 203-872-2 (EC Index-No.) 603-140-00-6	10 – 20	Acute Tox. 4 (Oral), H302 STOT RE 2, H373
Triethylene glycol monoethyl ether	(CAS-No.) 112-50-5 (EC-No.) 203-978-9	8 – 20	Not classified
3,6,9,12-Tetraoxahexadecan-1-ol	(CAS-No.) 1559-34-8 (EC-No.) 216-322-1	9 – 14	Eye Irrit. 2, H319
Triethylene glycol monomethyl ether	(CAS-No.) 112-35-6 (EC-No.) 203-962-1	3 – 10	Not classified
Tetraethylene glycol	(CAS-No.) 112-60-7 (EC-No.) 203-989-9	6 – 10	Not classified
Diethylene glycol monobutyl ether	(CAS-No.) 112-34-5 (EC-No.) 203-961-6 (EC Index-No.) 603-096-00-8	1 – 8	Eye Irrit. 2, H319
3,6,9,12,15,18-Hexaoxaeicosane	(CAS-No.) 23601-39-0 (EC-No.) 245-774-2	2 – 5	Not classified
Polyethylene glycol methyl ether	(CAS-No.) 9004-74-4 (EC-No.) 618-394-3	≤ 4	Not classified
Diethylene glycol monoethyl ether	(CAS-No.) 111-90-0 (EC-No.) 203-919-7	≤ 2	Not classified

Specific concentration limits:

Name	Product identifier	Specific concentration limits
Triethylene glycol monobutyl ether	(CAS-No.) 143-22-6 (EC-No.) 205-592-6 (EC Index-No.) 603-183-00-0	(20 ≤C < 30) Eye Irrit. 2, H319 (30 ≤C < 100) Eye Dam. 1, H318

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid measures after inhalation : When symptoms occur: go into open air and ventilate suspected area. Obtain medical attention if breathing difficulty persists.

First-aid measures after skin contact : Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Obtain medical attention if irritation develops or persists. Wash contaminated clothing before reuse.

First-aid measures after eye contact : Rinse cautiously with water for at least 60 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention.

First-aid measures after ingestion : Rinse mouth. Do not induce vomiting. Obtain medical attention.

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

Symptoms/effects : Causes serious eye damage. May cause damage to organs (Kidneys) through prolonged or repeated exposure (Oral).

Symptoms/effects after inhalation	: Prolonged exposure may cause irritation.
Symptoms/effects after skin contact	: Prolonged exposure may cause skin irritation.
Symptoms/effects after eye contact	: Redness, pain, swelling, itching, burning, tearing, and blurred vision. Causes permanent damage to the cornea, iris, or conjunctiva.
Symptoms/effects after ingestion	: Ingestion may cause adverse effects.
Chronic symptoms	: May cause damage to organs (Kidneys) through prolonged or repeated exposure (Oral).

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

If exposed or concerned, get medical advice and attention. If medical advice is needed, have product container or label at hand.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Water spray, dry chemical, foam, carbon dioxide.
Unsuitable extinguishing media	: Do not use a heavy water stream. Use of heavy stream of water may spread fire.

5.2. Special hazards arising from the substance or mixture

Fire hazard	: Not considered flammable but may burn at high temperatures.
Explosion hazard	: Product is not explosive.
Reactivity	: Hazardous reactions will not occur under normal conditions.
Hazardous decomposition products in case of fire	: Carbon oxides (CO, CO_2).

5.3. Advice for firefighters

Precautionary measures fire	: Exercise caution when fighting any chemical fire.
Firefighting instructions	: Use water spray or fog for cooling exposed containers. Do not allow run-off from fire fighting to enter drains or water sources. Do not breathe fumes or vapors from fire.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Do not breathe vapor, mist or spray. Avoid contact with skin, eyes and clothing.

6.1.1. For non-emergency personnel

Protective equipment	: Use appropriate personal protective equipment (PPE).
Emergency procedures	: Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment	: Equip cleanup crew with proper protection.
Emergency procedures	: Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit. Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters.

6.3. Methods and material for containment and cleaning up

For containment	: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.
Methods for cleaning up	: Absorb and/or contain spill with inert material, then place in suitable container. Transfer spilled material to a suitable container for disposal. Contact competent authorities after a spill.

6.4. Reference to other sections

See Section 8 for exposure controls and personal protection and Section 13 for disposal considerations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	: Avoid breathing vapours, mist, spray. Avoid contact with skin, eyes and clothing.
Hygiene measures	: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Comply with applicable regulations.

Storage conditions : Store in a dry, cool place. Keep container closed when not in use. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials.

Incompatible materials : Strong acids, strong bases, strong oxidizers and reducing agents.

7.3. Specific end use(s)

No use is specified.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Triethylene glycol monomethyl ether (112-35-6)		
Germany	Occupational exposure limit value (mg/m³)	50 mg/m³ (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed-inhalable fraction)
Slovenia	OEL TWA (mg/m³)	50 mg/m³ (inhalable fraction)
Slovenia	OEL STEL (mg/m³)	100 mg/m³ (inhalable fraction)

Diethylene glycol (111-46-6)		
Austria	MAK Daily average value (mg/m³)	44 mg/m³
Austria	MAK Daily average value (ppm)	10 ppm
Austria	MAK Short time value [mg/m³]	176 mg/m³
Austria	MAK Short time value [ppm]	40 ppm
Bulgaria	OEL TWA (mg/m³)	10 mg/m³
Croatia	GVI (granična vrijednost izloženosti) (mg/m³)	101 mg/m³
Croatia	GVI (granična vrijednost izloženosti) (ppm)	23 ppm
Germany	Occupational exposure limit value (mg/m³)	44 mg/m³ (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)
Germany	Occupational exposure limit value (ppm)	10 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)
Latvia	OEL TWA (mg/m³)	10 mg/m³
Switzerland	KZGW (mg/m³)	176 mg/m³ (aerosol, vapour)
Switzerland	KZGW (ppm)	40 ppm (aerosol, vapour)
Switzerland	MAK (mg/m³)	44 mg/m³ (aerosol, vapour)
Switzerland	MAK (ppm)	10 ppm (aerosol, vapour)
United Kingdom	WEL TWA (mg/m³)	101 mg/m³
United Kingdom	WEL TWA (ppm)	23 ppm
United Kingdom	WEL STEL (mg/m³)	303 mg/m³ (calculated)
United Kingdom	WEL STEL [ppm]	69 ppm (calculated)
Denmark	Grænsevædi (8 timer) (mg/m³)	11 mg/m³
Denmark	Grænsevædi (8 timer) (ppm)	2,5 ppm
Estonia	OEL TWA (mg/m³)	45 mg/m³
Estonia	OEL TWA (ppm)	10 ppm
Estonia	OEL STEL (mg/m³)	90 mg/m³
Estonia	OEL STEL (ppm)	20 ppm
Estonia	OEL chemical category (ET)	Skin notation
Ireland	OEL (8 hours ref) (mg/m³)	100 mg/m³
Ireland	OEL (8 hours ref) (ppm)	23 ppm
Ireland	OEL (15 min ref) (mg/m3)	300 mg/m³ (calculated)
Ireland	OEL (15 min ref) (ppm)	69 ppm (calculated)

DOT 3 Brake Fluid

Safety Data Sheet

According to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Diethylene glycol (111-46-6)		
Lithuania	IPRV (mg/m³)	45 mg/m³ (2,2-Oxydiethanol)
Lithuania	IPRV (ppm)	10 ppm (2,2-Oxydiethanol)
Lithuania	TPRV (mg/m³)	90 mg/m³ (2,2-Oxydiethanol)
Lithuania	TPRV (ppm)	20 ppm (2,2-Oxydiethanol)
Lithuania	OEL chemical category (LT)	Skin notation
Poland	NDS (mg/m³)	10 mg/m³ (inhalable fraction)
Romania	OEL TWA (mg/m³)	500 mg/m³
Romania	OEL TWA (ppm)	115 ppm
Romania	OEL STEL (mg/m³)	800 mg/m³
Romania	OEL STEL (ppm)	184 ppm
Slovakia	NPHV (priemerná) (mg/m³)	44 mg/m³
Slovakia	NPHV (priemerná) (ppm)	10 ppm
Slovakia	NPHV (Hraničná) (mg/m³)	90 mg/m³
Slovenia	OEL TWA (mg/m³)	44 mg/m³
Slovenia	OEL TWA (ppm)	10 ppm
Slovenia	OEL STEL (mg/m³)	176 mg/m³
Slovenia	OEL STEL (ppm)	40 ppm
Sweden	nivågränsvärde (NVG) (mg/m³)	45 mg/m³
Sweden	nivågränsvärde (NVG) (ppm)	10 ppm
Sweden	kortidsvärde (KTV) (mg/m³)	90 mg/m³
Sweden	kortidsvärde (KTV) (ppm)	20 ppm
Sweden	OEL chemical category (SE)	Skin notation

Diethylene glycol monobutyl ether (112-34-5)		
EU	IOELV TWA (mg/m³)	67,5 mg/m³
EU	IOELV TWA (ppm)	10 ppm
EU	IOELV STEL (mg/m³)	101,2 mg/m³
EU	IOELV STEL (ppm)	15 ppm
Austria	MAK Daily average value (mg/m³)	67,5 mg/m³
Austria	MAK Daily average value (ppm)	10 ppm
Austria	MAK Short time value [mg/m³]	101,2 mg/m³
Austria	MAK Short time value [ppm]	15 ppm
Belgium	Limit value [mg/m³]	67,5 mg/m³
Belgium	Limit value [ppm]	10 ppm
Belgium	Short time value [mg/m³]	101,2 mg/m³
Belgium	Short time value [ppm]	15 ppm
Bulgaria	OEL TWA (mg/m³)	67,5 mg/m³
Bulgaria	OEL TWA (ppm)	10 ppm
Bulgaria	OEL STEL (mg/m³)	101,2 mg/m³
Bulgaria	OEL STEL (ppm)	15 ppm
Croatia	GVI (granična vrijednost izloženosti) (mg/m³)	67,5 mg/m³
Croatia	GVI (granična vrijednost izloženosti) (ppm)	10 ppm
Croatia	KGVI (kratkotrajna granična vrijednost izloženosti) (mg/m³)	101,2 mg/m³
Croatia	KGVI (kratkotrajna granična vrijednost izloženosti) (ppm)	15 ppm
Cyprus	OEL TWA (mg/m³)	67,5 mg/m³

DOT 3 Brake Fluid

Safety Data Sheet

According to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Diethylene glycol monobutyl ether (112-34-5)		
Cyprus	OEL TWA (ppm)	10 ppm
Cyprus	OEL STEL (mg/m³)	101,2 mg/m³
Cyprus	OEL STEL (ppm)	15 ppm
France	VLE [mg/m³]	101,2 mg/m³ (indicative limit)
France	VLE [ppm]	15 ppm (indicative limit)
France	VME [mg/m³]	68 mg/m³ (indicative limit)
France	VME [ppm]	10 ppm (indicative limit)
Germany	Occupational exposure limit value (mg/m³)	67 mg/m³ (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)
Germany	Occupational exposure limit value (ppm)	10 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)
Gibraltar	Eight hours mg/m3	67,5 mg/m³
Gibraltar	Eight hours ppm	10 ppm
Gibraltar	Short-term mg/m3	101,2 mg/m³
Gibraltar	Short-term ppm	15 ppm
Greece	OEL TWA (mg/m³)	67,5 mg/m³
Greece	OEL TWA (ppm)	10 ppm
Greece	OEL STEL (mg/m³)	101,2 mg/m³
Greece	OEL STEL (ppm)	15 ppm
USA ACGIH	ACGIH TWA (ppm)	10 ppm (inhalable fraction and vapor)
Italy	OEL TWA (mg/m³)	67,5 mg/m³
Italy	OEL TWA (ppm)	10 ppm
Italy	OEL STEL (mg/m³)	101,2 mg/m³
Italy	OEL STEL (ppm)	15 ppm
Latvia	OEL TWA (mg/m³)	67,5 mg/m³
Latvia	OEL TWA (ppm)	10 ppm
Spain	VLA-ED (mg/m³)	67,5 mg/m³ (indicative limit value)
Spain	VLA-ED (ppm)	10 ppm (indicative limit value)
Spain	VLA-EC (mg/m³)	101,2 mg/m³
Spain	VLA-EC (ppm)	15 ppm
Switzerland	KZGW (mg/m³)	101 mg/m³ (aerosol, vapour)
Switzerland	KZGW (ppm)	15 ppm (aerosol, vapour)
Switzerland	MAK (mg/m³)	67 mg/m³ (aerosol, vapour)
Switzerland	MAK (ppm)	10 ppm (aerosol, vapour)
Netherlands	Grenswaarde TGG 8H (mg/m³)	50 mg/m³
Netherlands	Grenswaarde TGG 15MIN (mg/m³)	100 mg/m³
United Kingdom	WEL TWA (mg/m³)	67,5 mg/m³
United Kingdom	WEL TWA (ppm)	10 ppm
United Kingdom	WEL STEL (mg/m³)	101,2 mg/m³
United Kingdom	WEL STEL [ppm]	15 ppm
Czech Republic	Expoziční limity (PEL) (mg/m³)	100 mg/m³
Denmark	Grænsevædi (8 timer) (mg/m³)	68 mg/m³
Denmark	Grænsevædi (8 timer) (ppm)	10 ppm
Estonia	OEL TWA (mg/m³)	67,5 mg/m³
Estonia	OEL TWA (ppm)	10 ppm
Finland	HTP-arvo (8h) (mg/m³)	68 mg/m³

DOT 3 Brake Fluid

Safety Data Sheet

According to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Diethylene glycol monobutyl ether (112-34-5)		
Finland	HTP-arvo (8h) (ppm)	10 ppm
Hungary	AK-érték	67,5 mg/m³
Hungary	CK-érték	101,2 mg/m³
Ireland	OEL (8 hours ref) (mg/m³)	67,5 mg/m³
Ireland	OEL (8 hours ref) (ppm)	10 ppm
Ireland	OEL (15 min ref) (mg/m3)	101,2 mg/m³
Ireland	OEL (15 min ref) (ppm)	15 ppm
Lithuania	IPRV (mg/m³)	67,5 mg/m³
Lithuania	IPRV (ppm)	10 ppm
Lithuania	TPRV (mg/m³)	101,2 mg/m³
Lithuania	TPRV (ppm)	15 ppm
Luxembourg	OEL TWA (mg/m³)	67,5 mg/m³
Luxembourg	OEL TWA (ppm)	10 ppm
Luxembourg	OEL STEL (mg/m³)	101,2 mg/m³
Luxembourg	OEL STEL (ppm)	15 ppm
Luxembourg	OEL chemical category (LU)	Possibility of significant uptake through the skin
Malta	OEL TWA (mg/m³)	67,5 mg/m³
Malta	OEL TWA (ppm)	10 ppm
Malta	OEL STEL (mg/m³)	101,2 mg/m³
Malta	OEL STEL (ppm)	15 ppm
Norway	Grenseverdier (AN) (mg/m³)	68 mg/m³
Norway	Grenseverdier (AN) (ppm)	10 ppm
Norway	Grenseverdier (Korttidsverdi) (mg/m3)	102 mg/m³ (value calculated)
Norway	Grenseverdier (Korttidsverdi) (ppm)	15 ppm (value calculated)
Poland	NDS (mg/m³)	67 mg/m³
Poland	NDSCh (mg/m³)	100 mg/m³
Romania	OEL TWA (mg/m³)	67,5 mg/m³
Romania	OEL TWA (ppm)	10 ppm
Romania	OEL STEL (mg/m³)	101,2 mg/m³
Romania	OEL STEL (ppm)	15 ppm
Slovakia	NPHV (priemerná) (mg/m³)	67,5 mg/m³
Slovakia	NPHV (priemerná) (ppm)	10 ppm
Slovakia	NPHV (Hraničná) (mg/m³)	101,2 mg/m³
Slovenia	OEL TWA (mg/m³)	67,5 mg/m³
Slovenia	OEL TWA (ppm)	10 ppm
Slovenia	OEL STEL (mg/m³)	101,2 mg/m³
Slovenia	OEL STEL (ppm)	15 ppm
Sweden	nivågränsvärde (NVG) (mg/m³)	68 mg/m³
Sweden	nivågränsvärde (NVG) (ppm)	10 ppm
Sweden	kortidsvärde (KTV) (mg/m³)	101 mg/m³
Sweden	kortidsvärde (KTV) (ppm)	15 ppm
Portugal	OEL TWA (mg/m³)	67,5 mg/m³ (indicative limit value)
Portugal	OEL TWA (ppm)	10 ppm (indicative limit value)
Portugal	OEL STEL (mg/m³)	101,2 mg/m³
Portugal	OEL STEL (ppm)	15 ppm

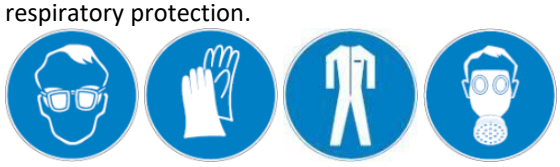
Diethylene glycol monoethyl ether (111-90-0)		
Austria	MAK Daily average value (mg/m³)	35 mg/m³

Diethylene glycol monoethyl ether (111-90-0)		
Austria	MAK Daily average value (ppm)	6 ppm
Austria	MAK Short time value [mg/m³]	140 mg/m³
Austria	MAK Short time value [ppm]	24 ppm
Germany	Occupational exposure limit value (mg/m³)	35 mg/m³ (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)
Germany	Occupational exposure limit value (ppm)	6 ppm (the risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)
Switzerland	KZGW (mg/m³)	100 mg/m³ (aerosol, inhalable dust, vapour)
Switzerland	MAK (mg/m³)	50 mg/m³ (aerosol, inhalable dust, vapour)
Estonia	OEL TWA (mg/m³)	50,1 mg/m³
Estonia	OEL TWA (ppm)	10 ppm
Estonia	OEL chemical category (ET)	Skin notation
Slovenia	OEL TWA (mg/m³)	35 mg/m³
Slovenia	OEL TWA (ppm)	6 ppm
Slovenia	OEL STEL (mg/m³)	70 mg/m³
Slovenia	OEL STEL (ppm)	12 ppm
Sweden	nivågränsvärde (NVG) (mg/m³)	80 mg/m³
Sweden	nivågränsvärde (NVG) (ppm)	15 ppm
Sweden	kortidsvärde (KTV) (mg/m³)	170 mg/m³
Sweden	kortidsvärde (KTV) (ppm)	30 ppm
Sweden	OEL chemical category (SE)	Skin notation

8.2. Exposure controls

Appropriate engineering controls : Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed.

Personal protective equipment : Protective goggles. Gloves. Protective clothing. Insufficient ventilation: wear respiratory protection.



Materials for protective clothing : Chemically resistant materials and fabrics.

Hand protection : Wear chemically resistant protective gloves.

Eye and Face Protection : Chemical safety goggles.

Skin and body protection : Wear suitable protective clothing.

Respiratory protection : If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn. In case of inadequate ventilation, oxygen deficient atmosphere, or where exposure levels are not known wear approved respiratory protection.

Environmental exposure controls : Avoid release to the environment.

Consumer exposure controls : Do not eat, drink or smoke during use.

Other information : When using, do not eat, drink or smoke.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid

Appearance : Slight yellow to yellow

Colour : No data available

Odour : Mild odor

Odour threshold : No data available

pH	:	10,6 50/50 (50% ETOH solvent)
Evaporation rate	:	No data available
Melting point	:	No data available
Freezing point	:	-50 °C (-58 °F)
Boiling point	:	232 °C (449,6 °F) (at 760 mm Hg)
Flash point	:	121 °C (249,8 °F) (PMCC)
Auto-ignition temperature	:	310 °C (590 °F)
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	No data available
Vapour pressure	:	No data available
Relative vapour density at 20 °C	:	No data available
Relative density	:	1,034
Solubility	:	Water: Soluble
Partition coefficient: n-octanol/water	:	No data available
Viscosity	:	1225 cSt (at -40 °C); 2.0 cSt at 100 °C (212 °F)
Explosive properties	:	No data available
Oxidising properties	:	No data available
Explosive limits	:	Not applicable

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Hazardous reactions will not occur under normal conditions.

10.2. Chemical stability

Stable under recommended handling and storage conditions (see section 7).

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Direct sunlight, extremely high or low temperatures, and incompatible materials.

10.5. Incompatible materials

Strong acids, strong bases, strong oxidizers and reducing agents.

10.6. Hazardous decomposition products

Can form explosive peroxides by prolonged contact with air.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified (Based on available data, the classification criteria are not met)

Triethylene glycol monobutyl ether (143-22-6)	
LD50 oral rat	5300 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
LD50 dermal	3540 mg/kg

Triethylene glycol monomethyl ether (112-35-6)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	7100 mg/kg

Diethylene glycol (111-46-6)	
LD50 oral rat	1120 mg/kg
LD50 dermal rabbit	11890 mg/kg
LC50 Inhalation - Rat	> 4600 mg/m³ (Exposure time: 4 h)

3,6,9,12-Tetraoxahexadecan-1-ol (1559-34-8)	
LD50 oral rat	5175 mg/kg
LD50 dermal rat	> 4000 mg/kg

Tetraethylene glycol (112-60-7)	
LD50 oral rat	29 g/kg
LD50 dermal rabbit	20 ml/kg

Triethylene glycol monoethyl ether (112-50-5)	
LD50 oral rat	7750 mg/kg
LD50 dermal rabbit	8,2 g/kg

Diethylene glycol monobutyl ether (112-34-5)	
LD50 oral rat	5660 mg/kg
LD50 dermal rabbit	2700 mg/kg

Polyethylene glycol methyl ether (9004-74-4)	
LD50 oral rat	22 ml/kg
LD50 dermal rabbit	> 20 ml/kg

Diethylene glycol monoethyl ether (111-90-0)	
LD50 oral rat	6031 mg/kg
LD50 dermal rabbit	9143 mg/kg
LC50 Inhalation - Rat	> 5240 mg/m³ (Exposure time: 4 h)

Skin corrosion/irritation : Not classified (Based on available data, the classification criteria are not met)
pH: 10,6 50/50 (50% ETOH solvent)

Serious eye damage/irritation : Causes serious eye damage.
pH: 10,6 50/50 (50% ETOH solvent)

Respiratory or skin sensitisation : Not classified (Based on available data, the classification criteria are not met)

Germ cell mutagenicity : Not classified (Based on available data, the classification criteria are not met)

Carcinogenicity : Not classified (Based on available data, the classification criteria are not met)

Reproductive toxicity : Not classified (Based on available data, the classification criteria are not met)

STOT-single exposure : Not classified (Based on available data, the classification criteria are not met)

STOT-repeated exposure : May cause damage to organs (Kidneys) through prolonged or repeated exposure (Oral).

Aspiration hazard : Not classified (Based on available data, the classification criteria are not met)

Symptoms/Injuries After Inhalation : Prolonged exposure may cause irritation.

Symptoms/Injuries After Skin Contact : Prolonged exposure may cause skin irritation.

Symptoms/Injuries After Eye Contact : Redness, pain, swelling, itching, burning, tearing, and blurred vision. Causes permanent damage to the cornea, iris, or conjunctiva.

Symptoms/Injuries After Ingestion : Ingestion may cause adverse effects.

Chronic Symptoms : May cause damage to organs (Kidneys) through prolonged or repeated exposure (Oral).

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Not classified.

Triethylene glycol monobutyl ether (143-22-6)	
LC50 fish 1	2400 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 Daphnia 1	> 500 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 fish 2	2400 mg/l (Exposure time: 96 h - Species: Pimephales promelas)

Triethylene glycol monomethyl ether (112-35-6)	
LC50 fish 1	> 5000 mg/l (Exposure time: 96 h - Species: Brachydanio rerio [static])

Triethylene glycol monomethyl ether (112-35-6)	
EC50 Daphnia 1	> 500 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 fish 2	> 10000 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])

Diethylene glycol (111-46-6)	
LC50 fish 1	75200 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	84000 mg/l (Exposure time: 48 h - Species: Daphnia magna)

3,6,9,12-Tetraoxahexadecan-1-ol (1559-34-8)	
EC50 Daphnia 1	> 1000 mg/l (Exposure time: 48 h - Species: Daphnia magna)

Tetraethylene glycol (112-60-7)	
LC50 fish 1	> 1000 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])
EC50 Daphnia 1	> 1000 mg/l (Exposure time: 48 h - Species: Daphnia magna)

Triethylene glycol monoethyl ether (112-50-5)	
LC50 fish 1	> 10000 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])

Diethylene glycol monobutyl ether (112-34-5)	
LC50 fish 1	1300 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])
EC50 Daphnia 1	> 100 mg/l (Exposure time: 48 h - Species: Daphnia magna)

Diethylene glycol monoethyl ether (111-90-0)	
LC50 fish 1	10000 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])
EC50 Daphnia 1	3940 – 4670 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 fish 2	19100 – 23900 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [flow-through])

12.2. Persistence and degradability

DOT 3 Brake Fluid	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

DOT 3 Brake Fluid	
Bioaccumulative potential	Not established.

Triethylene glycol monobutyl ether (143-22-6)	
BCF fish 1	(no significant bioaccumulation)
Partition coefficient n-octanol/water (Log Pow)	0,51 (at 25 °C)

Triethylene glycol monomethyl ether (112-35-6)	
Partition coefficient n-octanol/water (Log Pow)	1,13 (at 25 °C)

Diethylene glycol (111-46-6)	
BCF fish 1	100 – 180
Partition coefficient n-octanol/water (Log Pow)	-1,98 (at 25 °C)

3,6,9,12-Tetraoxahexadecan-1-ol (1559-34-8)	
BCF fish 1	(no significant bioaccumulation)

Tetraethylene glycol (112-60-7)	
BCF fish 1	(no bioconcentration expected)

Diethylene glycol monobutyl ether (112-34-5)	
BCF fish 1	(no bioconcentration expected)

Diethylene glycol monoethyl ether (111-90-0)	
Partition coefficient n-octanol/water (Log Pow)	-0,8

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

DOT 3 Brake Fluid
PBT: not relevant – no registration required
vPvB: not relevant – no registration required

12.6. Other adverse effects

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Sewage disposal recommendations : Do not empty into drains. Do not dispose of waste into sewer.

Product/Packaging disposal recommendations : Dispose of waste material in accordance with all local, regional, national, and international regulations.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

The shipping description(s) stated herein were prepared in accordance with certain assumptions at the time the SDS was authored, and can vary based on a number of variables that may or may not have been known at the time the SDS was issued.
In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
Not regulated for transport				
14.2. UN proper shipping name				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.3. Transport hazard class(es)				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.4. Packing group				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.5. Environmental hazards				
Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No	Dangerous for the environment : No	Dangerous for the environment : No	Dangerous for the environment : No

14.6. Special precautions for user

Special transport precautions : Avoid release to the environment.

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

The following restrictions are applicable according to Annex XVII of the REACH Regulation (EC) No 1907/2006:

3(b) Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10	DOT 3 Brake Fluid ; Triethylene glycol monobutyl ether ; Diethylene glycol ; 3,6,9,12-Tetraoxahexadecan-1-ol ; Diethylene glycol monobutyl ether
55. 2-(2-butoxyethoxy)ethanol (DEGBE)	Diethylene glycol monobutyl ether

Contains no substance on the REACH candidate list
Contains no REACH Annex XIV substances

Triethylene glycol monobutyl ether (143-22-6)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Triethylene glycol monomethyl ether (112-35-6)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Diethylene glycol (111-46-6)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

3,6,9,12-Tetraoxahexadecan-1-ol (1559-34-8)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Tetraethylene glycol (112-60-7)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Triethylene glycol monoethyl ether (112-50-5)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

3,6,9,12,15,18-Hexaoxaeicosane (23601-39-0)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Diethylene glycol monobutyl ether (112-34-5)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Diethylene glycol monoethyl ether (111-90-0)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Date of Preparation or Latest Revision : 29/01/2021

Data sources : Information and data obtained and used in the authoring of this safety data sheet could come from database subscriptions, official government regulatory body websites, product/ingredient manufacturer or supplier specific information, and/or resources that include substance specific data and classifications according to GHS or their subsequent adoption of GHS.

Other information : According to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Full Text of H- and EUH-statements:

Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
STOT RE 2	Specific target organ toxicity — Repeated exposure, Category 2
H302	Harmful if swallowed.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H373	May cause damage to organs through prolonged or repeated exposure.

Indication of Changes No additional information available

Abbreviations and Acronyms

ACGIH – American Conference of Governmental Industrial Hygienists
ADN – European Agreement Concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road
ATE - Acute Toxicity Estimate
BCF - Bioconcentration Factor
BEI - Biological Exposure Indices (BEI)
BOD – Biochemical Oxygen Demand
CAS No. - Chemical Abstracts Service Number
CLP – Classification, Labeling and Packaging Regulation (EC) No 1272/2008
COD – Chemical Oxygen Demand
EC – European Community
EC50 - Median Effective Concentration
EEC – European Economic Community
EINECS – European Inventory of Existing Commercial Chemical Substances
EmS-No. (Fire) - IMDG Emergency Schedule Fire
EmS-No. (Spillage) - IMDG Emergency Schedule Spillage
EU – European Union
NDS - Najwyzsze Dopuszczalne Stezenie
NDSCh - Najwyzsze Dopuszczalne Stezenie Chwilowe
NDSP - Najwyzsze Dopuszczalne Stezenie Pulapowe
NOAEL - No-Observed Adverse Effect Level
NOEC - No-Observed Effect Concentration
NRD - Nevirsytinas Ribinis Dydis
NTP – National Toxicology Program
OEL - Occupational Exposure Limits
PBT - Persistent, Bioaccumulative and Toxic
PEL - Permissible Exposure Limit
pH – Potential Hydrogen
REACH – Registration, Evaluation, Authorisation, and Restriction of Chemicals
RID – Regulations Concerning the International Carriage of Dangerous Goods by Rail
SADT - Self Accelerating Decomposition Temperature
SDS - Safety Data Sheet
STEL - Short Term Exposure Limit
STOT - Specific Target Organ Toxicity
TA-Luft - Technische Anleitung zur Reinhaltung der Luft

DOT 3 Brake Fluid

Safety Data Sheet

According to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

ErC50 - EC50 in Terms of Reduction Growth Rate
GHS – Globally Harmonized System of Classification and Labeling of Chemicals
IARC - International Agency for Research on Cancer
IATA - International Air Transport Association
IBC Code - International Bulk Chemical Code
IMDG - International Maritime Dangerous Goods
IPRV - Ilgalaikio Poveikio Ribinis Dydis
IOELV – Indicative Occupational Exposure Limit Value
LC50 - Median Lethal Concentration
LD50 - Median Lethal Dose
LOAEL - Lowest Observed Adverse Effect Level
LOEC - Lowest-Observed-Effect Concentration
Log Koc - Soil Organic Carbon-water Partitioning Coefficient
Log Kow - Octanol/water Partition Coefficient
Log Pow - Ratio of the equilibrium concentration (C) of a dissolved substance in a two-phase system consisting of two largely immiscible solvents, in this case octanol and water
MAK – Maximum Workplace Concentration/Maximum Permissible Concentration
MARPOL - International Convention for the Prevention of Pollution
TEL TRK – Technical Guidance Concentrations
ThOD – Theoretical Oxygen Demand
TLM - Median Tolerance Limit
TLV - Threshold Limit Value
TPRD - Trumpalaikio Poveikio Ribinis Dydis
TRGS 510 - Technische Regel für Gefahrstoffe 510 - Lagerung von Gefahrstoffen in ortsbeweglichen Behältern
TRGS 552 – Technische Regeln für Gefahrstoffe - N-Nitrosamine
TRGS 900 - Technische Regel für Gefahrstoffe 900 – Arbeitsplatzgrenzwerte
TRGS 903 - Technische Regel für Gefahrstoffe 903 - Biologische Grenzwerte
TSCA - Toxic Substances Control Act
TWA - Time Weighted Average
VOC – Volatile Organic Compounds
VLA-EC - Valor Límite Ambiental Exposición de Corta Duración
VLA-ED - Valor Límite Ambiental Exposición Diaria
VLE – Valeur Limite D'exposition
VME – Valeur Limite De Moyenne Exposition
vPvB - Very Persistent and Very Bioaccumulative
WEL – Workplace Exposure Limit
WGK - Wassergefährdungsklasse

EU GHS SDS

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.