



# Brake Fluid DOT 4

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878  
Reference number: 22004  
Issue date: 16/06/2023 Revision date: 16/06/2023 Version: 1.0

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

#### 1.1. Product identifier

Product form : Mixture  
Product name : Brake Fluid DOT 4  
Product code : 7833  
Type of product : Hydraulic oil  
Product group : Trade product

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

##### 1.2.1. Relevant identified uses

Intended for general public  
Main use category : Professional use, Consumer use  
Function or use category : Hydraulic fluids and additives

##### 1.2.2. Uses advised against

Restrictions on use : Hydraulic Fluids

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

##### Supplier

Morris Lubricants  
Castle Foregate  
SY1 2EL Shrewsbury – Shropshire  
United Kingdom  
T +44 (0) 1743 232200  
[sds@morris-lubricants.co.uk](mailto:sds@morris-lubricants.co.uk)

#### 1.4. Emergency telephone number

Emergency number : +44 (0) 1743 232200  
08.45 - 17.00 GMT

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

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

Serious eye damage/eye irritation, Category 2 H319  
Reproductive toxicity, Category 2 H361d  
Full text of H- and EUH-statements: see section 16

##### Adverse physicochemical, human health and environmental effects

Suspected of damaging fertility or the unborn child. Causes serious eye irritation.

#### 2.2. Label elements

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

Hazard pictograms (CLP) :



GHS07

GHS08

Signal word (CLP) : Warning  
Contains : Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate  
Hazard statements (CLP) : H319 - Causes serious eye irritation.  
H361d - Suspected of damaging the unborn child.

# Brake Fluid DOT 4

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Precautionary statements (CLP) : P101 - If medical advice is needed, have product container or label at hand.  
P102 - Keep out of reach of children.  
P264 - Wash hands thoroughly after handling.  
P301+P310 - IF SWALLOWED: Immediately call a doctor, a POISON CENTER.  
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P337+P313 - If eye irritation persists: Get medical advice/attention.  
P501 - Dispose of contents and container to an approved waste disposal plant.

### 2.3. Other hazards

Contains no PBT/vPvB substances  $\geq 0.1\%$  assessed in accordance with REACH Annex XIII

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

## 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]
Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate	CAS-No.: 30989-05-0 EC-No.: 250-418-4 REACH-no: 01-2119462824-33	$\geq 10 - < 50$	Repr. 2, H361d
2-[2-(2-BUTOXYETHOXY)ETHOXY]ETHANOL	CAS-No.: 143-22-6 EC-No.: 205-592-6 EC Index-No.: 603-183-00-0 REACH-no: 01-2119531322-53	$\geq 10 - < 30$	Eye Dam. 1, H318
Butyl Polyglycol	CAS-No.: 9004-77-7 EC-No.: 500-012-0 REACH-no: 01-2119475115-41	$\geq 5 - < 30$	Eye Irrit. 2, H319
2,2'-OXYBISETHANOL substance with national workplace exposure limit(s) (GB)	CAS-No.: 111-46-6 EC-No.: 203-872-2 EC Index-No.: 603-140-00-6 REACH-no: 01-2119457857-21	$< 10$	Acute Tox. 4 (Oral), H302 (ATE=500 mg/kg bodyweight)
2-(2-butoxyethoxy)ethanol substance with national workplace exposure limit(s) (GB, NO); substance with a Community workplace exposure limit	CAS-No.: 112-34-5 EC-No.: 203-961-6 EC Index-No.: 603-096-00-8 REACH-no: 01-2119475104-44	$< 5$	Eye Irrit. 2, H319
2-(2-METHOXYETHOXY)ETHANOL substance with national workplace exposure limit(s) (GB, NO); substance with a Community workplace exposure limit	CAS-No.: 111-77-3 EC-No.: 203-906-6 EC Index-No.: 603-107-00-6 REACH-no: 01-2119475100-52	$< 5$	Repr. 2, H361d

# Brake Fluid DOT 4

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Specific concentration limits:		
Name	Product identifier	Specific concentration limits
2-[2-(2-BUTOXYETHOXY)ETHOXY]ETHANOL	CAS-No.: 143-22-6 EC-No.: 205-592-6 EC Index-No.: 603-183-00-0 REACH-no: 01-2119531322-53	( 20 ≤C < 30) Eye Irrit. 2, H319 ( 30 ≤C ≤ 100) Eye Dam. 1, H318
2-(2-METHOXYETHOXY)ETHANOL	CAS-No.: 111-77-3 EC-No.: 203-906-6 EC Index-No.: 603-107-00-6 REACH-no: 01-2119475100-52	( 3 ≤C ≤ 100) Repr. 1B, H360D

Full text of H- and EUH-statements: see section 16

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general	: IF exposed or concerned: Get medical advice/attention.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	: Wash skin with plenty of water.
First-aid measures after 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.
First-aid measures after ingestion	: Call a poison center or a doctor if you feel unwell. Drink plenty of water. If swallowed, seek medical advice immediately and show this container or label. Do NOT induce vomiting. Have the victim lean forward with head down to avoid inhalation of- or choking on vomited material. If medical attention is delayed, give adults 90-120 ml hard liquor such as 40% v/v spirits. Give children proportionately less at a rate of 2ml/kg body weight.

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

Symptoms/effects after eye contact	: Eye irritation.
------------------------------------	-------------------

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

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media	: Water spray. Dry powder. Foam. Carbon dioxide.
------------------------------	--

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

Hazardous decomposition products in case of fire	: Toxic fumes may be released.
--	--------------------------------

### 5.3. Advice for firefighters

Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.
--------------------------------	--

## SECTION 6: Accidental release measures

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

General measures	: Avoid contact with skin and eyes.
------------------	-------------------------------------

# Brake Fluid DOT 4

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

### 6.1.1. For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.  
Emergency procedures : Ventilate spillage area. Avoid contact with skin and eyes.

### 6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

## 6.2. Environmental precautions

Avoid release to the environment.

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

For containment : Contain large spillage with sand or earth.  
Methods for cleaning up : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.  
Other information : Dispose of materials or solid residues at an authorized site.

## 6.4. Reference to other sections

For further information refer to section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment. Avoid contact with skin and eyes.  
Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

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

Storage conditions : Store locked up. Store in a well-ventilated place. Keep cool.  
Storage temperature : 15 – 30 °C

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### 8.1.1 National occupational exposure and biological limit values

2-(2-butoxyethoxy)ethanol (112-34-5)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	2-(2-Butoxyethoxy)ethanol
IOEL TWA	67.5 mg/m <sup>3</sup>
IOEL TWA [ppm]	10 ppm
IOEL STEL	101.2 mg/m <sup>3</sup>
IOEL STEL [ppm]	15 ppm
Regulatory reference	COMMISSION DIRECTIVE 2006/15/EC
United Kingdom - Occupational Exposure Limits	
Local name	2-(2-Butoxyethoxy)ethanol
WEL TWA (OEL TWA) [1]	67.5 mg/m <sup>3</sup>

# Brake Fluid DOT 4

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

2-(2-butoxyethoxy)ethanol (112-34-5)	
WEL TWA (OEL TWA) [2]	10 ppm
WEL STEL (OEL STEL)	101.2 mg/m <sup>3</sup>
WEL STEL (OEL STEL) [ppm]	15 ppm
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

2,2'-OXYBISETHANOL (111-46-6)	
United Kingdom - Occupational Exposure Limits	
Local name	2,2'-Oxydiethanol
WEL TWA (OEL TWA) [1]	101 mg/m <sup>3</sup>
WEL TWA (OEL TWA) [2]	23 ppm
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

2-(2-Methoxyethoxy)ETHANOL (111-77-3)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	2-(2-Methoxyethoxy)ethanol
IOEL TWA	50.1 mg/m <sup>3</sup>
IOEL TWA [ppm]	10 ppm
Remark	Skin
Regulatory reference	COMMISSION DIRECTIVE 2006/15/EC

United Kingdom - Occupational Exposure Limits	
Local name	2-(2-Methoxyethoxy) ethanol
WEL TWA (OEL TWA) [1]	50.1 mg/m <sup>3</sup>
WEL TWA (OEL TWA) [2]	10 ppm
Remark	Sk (Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity)
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

### 8.1.2. Recommended monitoring procedures

No additional information available

### 8.1.3. Air contaminants formed

No additional information available

### 8.1.4. DNEL and PNEC

No additional information available

### 8.1.5. Control banding

No additional information available

## 8.2. Exposure controls

### 8.2.1. Appropriate engineering controls

#### Appropriate engineering controls:

Ensure good ventilation of the work station.

# Brake Fluid DOT 4

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

### 8.2.2. Personal protection equipment

Personal protective equipment symbol(s):



#### 8.2.2.1. Eye and face protection

**Eye protection:**

Safety glasses

Eye protection			
Type	Field of application	Characteristics	Standard
Safety glasses	Droplet	With side shields	EN 166

#### 8.2.2.2. Skin protection

**Skin and body protection:**

Wear suitable protective clothing

**Hand protection:**

Protective gloves

Hand protection					
Type	Material	Permeation	Thickness (mm)	Penetration	Standard
Disposable gloves	Butyl rubber	6 (> 480 minutes)	0.3		EN 374-2, EN 374-3, EN 388
Disposable gloves	Nitrile rubber (NBR)	6 (> 480 minutes)	0.2		EN 374-2, EN 374-3, EN 388

#### 8.2.2.3. Respiratory protection

**Respiratory protection:**

[In case of inadequate ventilation] wear respiratory protection.

#### 8.2.2.4. Thermal hazards

No additional information available

### 8.2.3. Environmental exposure controls

**Environmental exposure controls:**

Avoid release to the environment.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: Not available
Appearance	: Clear liquid.
Odour	: Not available
Odour threshold	: Not available
Melting point	: $\geq 50$ °C
Freezing point	: Not available
Boiling point	: $\geq 260$ °C
Flammability	: Non flammable.
Explosive limits	: Not available
Lower explosion limit	: Not available
Upper explosion limit	: Not available

# Brake Fluid DOT 4

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Flash point	: $\geq 100$ °C PMCC
Auto-ignition temperature	: $\geq 280$
Decomposition temperature	: 300 °C
pH	: 7 – 10.5
Viscosity, kinematic @ 40°C	: Not available
Solubility	: Soluble in water.
Partition coefficient n-octanol/water (Log Kow)	: Not available
Partition coefficient n-octanol/water (Log Pow)	: 1.5
Vapour pressure	: 1 mbar
Vapour pressure at 50°C	: Not available
Density	: Not available
Relative density	: 1.02 – 1.07
Relative vapour density at 20°C	: Not available
Particle characteristics	: Not applicable

### 9.2. Other information

#### 9.2.1. Information with regard to physical hazard classes

No additional information available

#### 9.2.2. Other safety characteristics

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

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

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

#### 2-(2-butoxyethoxy)ethanol (112-34-5)

LD50 dermal rabbit	2764 mg/kg bodyweight Animal: rabbit, Animal sex: male, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), 95% CL: 2090 - 3645
--------------------	--

#### 2-[2-(2-BUTOXYETHOXY)ETHOXY]ETHANOL (143-22-6)

LD50 oral rat	> 5000 mg/kg bodyweight Animal: rat, Guideline: EU Method B.1 bis (Acute Oral Toxicity - Fixed Dose Procedure)
---------------	--

# Brake Fluid DOT 4

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

<b>2-[2-(2-BUTOXYETHOXY)ETHOXY]ETHANOL (143-22-6)</b>	
LD50 dermal rabbit	3540 mg/kg bodyweight Animal: rabbit, Animal sex: male, Remarks on results: other:, 95% CL: 1050 - 11800
<b>2-(2-METHOXYETHOXY)ETHANOL (111-77-3)</b>	
LD50 dermal rabbit	9404 mg/kg bodyweight Animal: rabbit, Animal sex: male, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), 95% CL: 6696 - 13212
<b>Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate (30989-05-0)</b>	
LD50 oral rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity), Guideline: EU Method B.1 (Acute Toxicity (Oral))
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), Guideline: EU Method B.3 (Acute Toxicity (Dermal)), Remarks on results: other:
<b>Butyl Polyglycol (9004-77-7)</b>	
LD50 oral rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity)
LD50 dermal rabbit	3540 mg/kg bodyweight Animal: rabbit, Animal sex: male, 95% CL: 1050 - 11800
Skin corrosion/irritation	: Not classified pH: 7 – 10.5
<b>2-[2-(2-BUTOXYETHOXY)ETHOXY]ETHANOL (143-22-6)</b>	
pH	7 Temp.: 20 °C Concentration: [70 vol%,80 vol%] Remarks on result: 'other:'
Serious eye damage/irritation	: Causes serious eye irritation. pH: 7 – 10.5
<b>2-[2-(2-BUTOXYETHOXY)ETHOXY]ETHANOL (143-22-6)</b>	
pH	7 Temp.: 20 °C Concentration: [70 vol%,80 vol%] Remarks on result: 'other:'
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
<b>2,2'-OXYBISETHANOL (111-46-6)</b>	
NOAEL (chronic, oral, animal/male, 2 years)	1210 mg/kg bodyweight Animal: rat, Animal sex: male
NOAEL (chronic, oral, animal/female, 2 years)	1160 mg/kg bodyweight Animal: rat, Animal sex: female
Reproductive toxicity	: Suspected of damaging the unborn child.
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
<b>2-(2-butoxyethoxy)ethanol (112-34-5)</b>	
NOAEL (oral, rat, 90 days)	250 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents), Guideline: EU Method B.26 (Sub-Chronic Oral Toxicity Test: Repeated Dose 90-Day Oral Toxicity Study in Rodents), Guideline: EPA OPPTS 870.3100 (90-Day Oral Toxicity in Rodents)
<b>2-[2-(2-BUTOXYETHOXY)ETHOXY]ETHANOL (143-22-6)</b>	
LOAEL (oral, rat, 90 days)	1200 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)
NOAEL (oral, rat, 90 days)	400 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)
NOAEL (dermal, rat/rabbit, 90 days)	4000 mg/kg bodyweight Animal: rat, Guideline: other:



# Brake Fluid DOT 4

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

<b>2,2'-OXYBISETHANOL (111-46-6)</b>	
LOAEL (oral, rat, 90 days)	40000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity Study in Rodents)
<b>2-(2-METHOXYETHOXY)ETHANOL (111-77-3)</b>	
LOAEL (oral, rat, 90 days)	1800 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity Study in Rodents)
NOAEL (oral, rat, 90 days)	900 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity Study in Rodents), Remarks on results: other:
NOAEC (inhalation, rat, vapour, 90 days)	> 1.06 mg/l air Animal: rat, Guideline: OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day Study)
<b>Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate (30989-05-0)</b>	
NOAEL (oral, rat, 90 days)	≥ 1000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents), Guideline: EU Method B.26 (Sub-Chronic Oral Toxicity Test: Repeated Dose 90-Day Oral Toxicity Study in Rodents), Guideline: EPA OPPTS 870.3100 (90-Day Oral Toxicity in Rodents)
<b>Butyl Polyglycol (9004-77-7)</b>	
LOAEL (oral, rat, 90 days)	1200 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)
NOAEL (oral, rat, 90 days)	400 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)
Aspiration hazard : Not classified	
<b>2-(2-butoxyethoxy)ethanol (112-34-5)</b>	
Viscosity, kinematic @ 40°C	≈ 6.794 mm²/s
<b>2-[2-(2-BUTOXYETHOXY)ETHOXY]ETHANOL (143-22-6)</b>	
Viscosity, kinematic @ 40°C	9.2 mm²/s Temp.: 'other:' Parameter: 'kinematic viscosity (in mm²/s)' Remarks on result: 'other:'
<b>Butyl Polyglycol (9004-77-7)</b>	
Viscosity, kinematic @ 40°C	9.2 mm²/s Temp.: 'other:' Parameter: 'kinematic viscosity (in mm²/s)' Remarks on result: 'other:'

### 11.2. Information on other hazards

No additional information available

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general	: The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Hazardous to the aquatic environment, short-term (acute)	: Not classified
Hazardous to the aquatic environment, long-term (chronic)	: Not classified
Not rapidly degradable	

<b>2-(2-butoxyethoxy)ethanol (112-34-5)</b>	
LC50 - Fish [1]	1300 mg/l Test organisms (species): Lepomis macrochirus
EC50 - Crustacea [1]	> 100 mg/l Test organisms (species): Daphnia magna

# Brake Fluid DOT 4

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

<b>2-(2-butoxyethoxy)ethanol (112-34-5)</b>	
EC50 96h - Algae [1]	> 100 mg/l Test organisms (species): <i>Desmodesmus subspicatus</i> (previous name: <i>Scenedesmus subspicatus</i> )
<b>2-[2-(2-BUTOXYETHOXY)ETHOXY]ETHANOL (143-22-6)</b>	
LC50 - Fish [1]	2200 – 4600 mg/l Test organisms (species): <i>Leuciscus idus</i>
LC50 - Fish [2]	2400 mg/l Test organisms (species): <i>Pimephales promelas</i>
EC50 72h - Algae [1]	1589 mg/l Test organisms (species): <i>Pseudokirchneriella subcapitata</i> (previous names: <i>Raphidocelis subcapitata</i> , <i>Selenastrum capricornutum</i> )
EC50 72h - Algae [2]	3211 mg/l Test organisms (species): <i>Pseudokirchneriella subcapitata</i> (previous names: <i>Raphidocelis subcapitata</i> , <i>Selenastrum capricornutum</i> )
<b>2,2'-OXYBISETHANOL (111-46-6)</b>	
LC50 - Fish [1]	75200 mg/l Test organisms (species): <i>Pimephales promelas</i>
EC50 96h - Algae [1]	6500 – 13000 mg/l Test organisms (species): <i>Pseudokirchneriella subcapitata</i> (previous names: <i>Raphidocelis subcapitata</i> , <i>Selenastrum capricornutum</i> )
EC50 96h - Algae [2]	9362 mg/l Test organisms (species): other:
NOEC (chronic)	≥ 1000 mg/l Test organisms (species): <i>Americamysis bahia</i> (previous name: <i>Mysidopsis bahia</i> ) Duration: '23 d'
<b>2-(2-METHOXYETHOXY)ETHANOL (111-77-3)</b>	
LC50 - Fish [1]	5741 mg/l Test organisms (species): <i>Pimephales promelas</i>
EC50 - Crustacea [1]	1192 mg/l Test organisms (species): <i>Daphnia magna</i>
EC50 96h - Algae [1]	> 1000 mg/l Test organisms (species): <i>Pseudokirchneriella subcapitata</i> (previous names: <i>Raphidocelis subcapitata</i> , <i>Selenastrum capricornutum</i> )
<b>Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate (30989-05-0)</b>	
LC50 - Fish [1]	> 222.2 mg/l Test organisms (species): <i>Oncorhynchus mykiss</i> (previous name: <i>Salmo gairdneri</i> )
LC50 - Fish [2]	> 1010 mg/l Test organisms (species): <i>Oncorhynchus mykiss</i> (previous name: <i>Salmo gairdneri</i> )
EC50 - Crustacea [1]	> 211.2 mg/l Test organisms (species): <i>Daphnia magna</i>
EC50 - Crustacea [2]	> 960 mg/l Test organisms (species): <i>Daphnia magna</i>
EC50 72h - Algae [1]	> 224.4 mg/l Test organisms (species): other:
EC50 72h - Algae [2]	> 1020 mg/l Test organisms (species): other:
<b>Butyl Polyglycol (9004-77-7)</b>	
LC50 - Fish [1]	> 1800 mg/l Test organisms (species): other:
EC50 - Crustacea [1]	> 3200 mg/l Test organisms (species): <i>Daphnia magna</i>
EC50 72h - Algae [1]	391 mg/l Test organisms (species): <i>Skeletonema costatum</i>

## 12.2. Persistence and degradability

<b>Brake Fluid DOT 4</b>	
Persistence and degradability	Product is biodegradable.

# Brake Fluid DOT 4

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

### 12.3. Bioaccumulative potential

#### Brake Fluid DOT 4

Partition coefficient n-octanol/water (Log Pow)	1.5
---	-----

### 12.4. Mobility in soil

#### Brake Fluid DOT 4

Additional information	soluble in water
------------------------	------------------

### 12.5. Results of PBT and vPvB assessment

No additional information available

### 12.6. Endocrine disrupting properties

No additional information available

### 12.7. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
European List of Waste (LoW) code	: 16 01 13* - brake fluids
HP Code	: HP4 - "Irritant – skin irritation and eye damage:" waste which on application can cause skin irritation or damage to the eye.

## SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
<b>14.1. UN number or ID number</b>				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
<b>14.2. UN proper shipping name</b>				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
<b>14.3. Transport hazard class(es)</b>				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
<b>14.4. Packing group</b>				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
<b>14.5. Environmental hazards</b>				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
No supplementary information available				

### 14.6. Special precautions for user

#### Overland transport

Not regulated

#### Transport by sea

Not regulated

# Brake Fluid DOT 4

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

### Air transport

Not regulated

### Inland waterway transport

Not regulated

### Rail transport

Not regulated

## 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

#### 15.1.1. EU-Regulations

##### REACH Annex XVII (Restriction List)

Contains no substance(s) listed on REACH Annex XVII (Restriction Conditions)

##### REACH Annex XIV (Authorisation List)

Contains no substance(s) listed on REACH Annex XIV (Authorisation List)

##### REACH Candidate List (SVHC)

Contains no substance(s) listed on the REACH Candidate List

##### PIC Regulation (Prior Informed Consent)

Contains no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)

##### POP Regulation (Persistent Organic Pollutants)

Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

##### Ozone Regulation (1005/2009)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 1005/2009 on substances that deplete the ozone layer)

##### Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

##### Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic 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

### Abbreviations and acronyms:

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
BLV	Biological limit value

# Brake Fluid DOT 4

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Abbreviations and acronyms:	
BOD	Biochemical oxygen demand (BOD)
COD	Chemical oxygen demand (COD)
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
EN	European Standard
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
VOC	Volatile Organic Compounds
CAS-No.	Chemical Abstract Service number
N.O.S.	Not Otherwise Specified
vPvB	Very Persistent and Very Bioaccumulative
ED	Endocrine disrupting properties

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
H302	Harmful if swallowed.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H360D	May damage the unborn child.

# Brake Fluid DOT 4

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Full text of H- and EUH-statements:	
H361d	Suspected of damaging the unborn child.
Repr. 1B	Reproductive toxicity, Category 1B
Repr. 2	Reproductive toxicity, Category 2

The classification complies with : ATP 12

Safety Data Sheet (SDS), EU

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.