

Page 1 of 16  
Safety data sheet according to Regulation (EC) No 1907/2006, Annex II  
Revision date / version: 30.01.2023 / 0017  
Replacing version dated / version: 07.12.2021 / 0016  
Valid from: 30.01.2023  
PDF print date: 30.01.2023  
Brake Fluid DOT 4 ESP NV  
1 | Art.: 6760 7581, Art.: 6764 7581

## Safety data sheet according to Regulation (EC) No 1907/2006, Annex II

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

#### 1.1 Product identifier

**Brake Fluid DOT 4 ESP NV**  
**1 | Art.: 6760 7581, Art.: 6764 7581**

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

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

Hydraulic fluid

**Uses advised against:**

No information available at present.

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

Theo Förch GmbH & Co. KG  
Theo-Förch-Str. 11 – 15  
74196 Neuenstadt  
Tel.: 07139/95-0  
Fax: 07139/95-199  
Email: [info@foerch.de](mailto:info@foerch.de)  
Homepage: [www.foerch.com](http://www.foerch.com)

Details of the supplier of the safety data sheet see section 16 of this safety data sheet.

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

#### 1.4 Emergency telephone number

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

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

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

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

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

Hazard class	Hazard category	Hazard statement
Repr.	2	H361d-Suspected of damaging the unborn child.

#### 2.2 Label elements

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

Safety data sheet according to Regulation (EC) No 1907/2006, Annex II  
 Revision date / version: 30.01.2023 / 0017  
 Replacing version dated / version: 07.12.2021 / 0016  
 Valid from: 30.01.2023  
 PDF print date: 30.01.2023  
 Brake Fluid DOT 4 ESP NV  
 1 | Art.: 6760 7581, Art.: 6764 7581



### Warning

H361d-Suspected of damaging the unborn child.

P201-Obtain special instructions before use. P280-Wear protective gloves / protective clothing / eye protection / face protection.  
 P308+P313-IF exposed or concerned: Get medical advice / attention.

EUH208-Contains Dihydro-3-(tetrapropenyl)furan-2,5-dione. May produce an allergic reaction.

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

### 2.3 Other hazards

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

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

The mixture does not contain any substance with endocrine disrupting properties (< 0,1 %).

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

n.a.

### 3.2 Mixtures

Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate	
Registration number (REACH)	01-2119462824-33-XXXX
Index	---
EINECS, ELINCS, NLP, REACH-IT List-No.	250-418-4
CAS	30989-05-0
content %	<60
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Repr. 2, H361d

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

2-(2-methoxyethoxy)ethanol	
Registration number (REACH)	01-2119475100-52-XXXX
Index	603-107-00-6
EINECS, ELINCS, NLP, REACH-IT List-No.	203-906-6
CAS	111-77-3
content %	<3
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Repr. 1B, H360D
Specific Concentration Limits and ATE	Repr. 1B, H360D: >=3 %

GB

Page 3 of 16  
 Safety data sheet according to Regulation (EC) No 1907/2006, Annex II  
 Revision date / version: 30.01.2023 / 0017  
 Replacing version dated / version: 07.12.2021 / 0016  
 Valid from: 30.01.2023  
 PDF print date: 30.01.2023  
 Brake Fluid DOT 4 ESP NV  
 1 | Art.: 6760 7581, Art.: 6764 7581

<b>Dihydro-3-(tetrapropenyl)furan-2,5-dione</b>	
<b>Registration number (REACH)</b>	01-2119979080-37-XXXX
<b>Index</b>	---
<b>EINECS, ELINCS, NLP, REACH-IT List-No.</b>	247-781-6
<b>CAS</b>	26544-38-7
<b>content %</b>	<0,1
<b>Classification according to Regulation (EC) 1272/2008 (CLP), M-factors</b>	Eye Irrit. 2, H319 Skin Sens. 1A, H317 Aquatic Chronic 4, H413

For the text of the H-phrases and classification codes (GHS/CLP), see Section 16.  
 The substances named in this section are given with their actual, appropriate classification!  
 For substances that are listed in appendix VI, table 3.1 of the regulation (EC) no. 1272/2008 (CLP regulation) this means that all notes that may be given here for the named classification have been taken into account.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

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

#### Inhalation

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

#### Skin contact

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

#### Eye contact

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

#### Ingestion

Rinse the mouth thoroughly with water.  
 Give copious water to drink - consult doctor immediately.

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

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

Allergic reaction

Ingestion:

Nausea

vomiting

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

Symptomatic treatment.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

Water jet spray / alcohol resistant foam / CO<sub>2</sub> / dry extinguisher.

#### Unsuitable extinguishing media

High volume water jet

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

In case of fire the following can develop:

Oxides of carbon

Boron oxide

Organic decomposition products

Oxides of nitrogen

Toxic gases

### 5.3 Advice for firefighters

For personal protective equipment see Section 8.  
 In case of fire and/or explosion do not breathe fumes.  
 Protective respirator with independent air supply.

Page 4 of 16  
Safety data sheet according to Regulation (EC) No 1907/2006, Annex II  
Revision date / version: 30.01.2023 / 0017  
Replacing version dated / version: 07.12.2021 / 0016  
Valid from: 30.01.2023  
PDF print date: 30.01.2023  
Brake Fluid DOT 4 ESP NV  
1 | Art.: 6760 7581, Art.: 6764 7581

According to size of fire  
Full protection, if necessary.  
Dispose of contaminated extinction water according to official regulations.

## SECTION 6: Accidental release measures

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

#### 6.1.1 For non-emergency personnel

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

#### 6.1.2 For emergency responders

See section 8 for suitable protective equipment and material specifications.

### 6.2 Environmental precautions

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

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

Soak up with absorbent material (e.g. universal binding agent, sand, diatomaceous earth) and dispose of according to Section 13.  
Fill the absorbed material into lockable containers.

### 6.4 Reference to other sections

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

## SECTION 7: Handling and storage

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

### 7.1 Precautions for safe handling

#### 7.1.1 General recommendations

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

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

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

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

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

### 7.3 Specific end use(s)

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

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

Safety data sheet according to Regulation (EC) No 1907/2006, Annex II  
 Revision date / version: 30.01.2023 / 0017  
 Replacing version dated / version: 07.12.2021 / 0016  
 Valid from: 30.01.2023  
 PDF print date: 30.01.2023  
 Brake Fluid DOT 4 ESP NV  
 1 | Art.: 6760 7581, Art.: 6764 7581

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

Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate						
Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - freshwater		PNEC	0,211	mg/l	
	Environment - water, sporadic (intermittent) release		PNEC	2,112	mg/l	
	Environment - marine		PNEC	0,021	mg/l	
	Environment - sediment, freshwater		PNEC	0,76	mg/kg dw	
	Environment - sediment, marine		PNEC	0,076	mg/kg dw	
	Environment - soil		PNEC	0,028	mg/kg dw	
	Environment - sewage treatment plant		PNEC	100	mg/l	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	7,2	mg/m <sup>3</sup>	
Consumer	Human - dermal	Long term, systemic effects	DNEL	4,1	mg/kg bw/d	
Consumer	Human - oral	Long term, systemic effects	DNEL	4,1	mg/kg bw/d	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	29,1	mg/m <sup>3</sup>	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	8,3	mg/kg bw/d	

2-[2-(2-butoxyethoxy)ethoxy]ethanol						
Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - freshwater		PNEC	1,5	mg/l	
	Environment - marine		PNEC	0,15	mg/l	
	Environment - sediment, marine		PNEC	0,13	mg/kg dw	
	Environment - sediment, freshwater		PNEC	5,77	mg/kg dw	
	Environment - soil		PNEC	0,45	mg/kg dw	
	Environment - sewage treatment plant		PNEC	200	mg/l	
	Environment - water, sporadic (intermittent) release		PNEC	5	mg/l	
Consumer	Human - dermal	Long term, systemic effects	DNEL	25	mg/kg bw/day	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	117	mg/m <sup>3</sup>	
Consumer	Human - oral	Long term, systemic effects	DNEL	2,5	mg/kg bw/day	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	50	mg/kg bw/day	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	195	mg/m <sup>3</sup>	

2-(2-methoxyethoxy)ethanol

GB

Page 6 of 16  
 Safety data sheet according to Regulation (EC) No 1907/2006, Annex II  
 Revision date / version: 30.01.2023 / 0017  
 Replacing version dated / version: 07.12.2021 / 0016  
 Valid from: 30.01.2023  
 PDF print date: 30.01.2023  
 Brake Fluid DOT 4 ESP NV  
 1 | Art.: 6760 7581, Art.: 6764 7581

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

Dihydro-3-(tetrapropenyl)furan-2,5-dione						
Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - freshwater		PNEC	0,02	mg/l	
	Environment - marine		PNEC	0,002	mg/l	
	Environment - sediment, freshwater		PNEC	1,7	mg/kg	
	Environment - marine		PNEC	0,17	mg/kg	
	Environment - sewage treatment plant		PNEC	10	mg/l	
	Environment - soil		PNEC	0,2	mg/kg	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	0,33	mg/kg bw/day	

WEL-TWA = Workplace Exposure Limit - Long-term exposure limit (8-hour TWA (= time weighted average) reference period) EH40. AGW = "Arbeitsplatzgrenzwert" (workplace limit value, Germany). (8) = Inhalable fraction (Directive 2017/164/EU, Directive 2004/37/CE). (9) = Respirable fraction (Directive 2017/164/EU, Directive 2004/37/CE). (11) = Inhalable fraction (Directive 2004/37/CE). (12) = Inhalable fraction. Respirable fraction in those Member States that implement, on the date of the entry into force of this Directive, a biomonitoring system with a biological limit value not exceeding 0,002 mg Cd/g creatinine in urine (Directive 2004/37/CE). | WEL-STEL = Workplace Exposure Limit - Short-term exposure limit (15-minute reference period). (8) = Inhalable fraction (2017/164/EU, 2017/2398/EU). (9) = Respirable fraction (2017/164/EU, 2017/2398/EU). (10) = Short-term exposure limit value in relation to a reference period of 1 minute (2017/164/EU). | BMGV = Biological monitoring guidance value EH40. BGW = "Biologischer Grenzwert" (biological limit value, Germany) | Other information: Sen = Capable of causing occupational asthma. Sk = Can be absorbed through skin. Carc = Capable of causing cancer and/or heritable genetic damage. \*\* = The exposure limit for this substance is repealed through the TRGS 900 (Germany) of January 2006 with the goal of revision. (13) = The substance can cause sensitisation of the skin and of the respiratory tract (Directive 2004/37/CE), (14) = The substance can cause sensitisation of the skin (Directive 2004/37/CE).

## 8.2 Exposure controls

### 8.2.1 Appropriate engineering controls

Ensure good ventilation. This can be achieved by local suction or general air extraction.  
 If this is insufficient to maintain the concentration under the WEL or AGW values, suitable breathing protection should be worn.  
 Applies only if maximum permissible exposure values are listed here.  
 Suitable assessment methods for reviewing the effectiveness of protection measures adopted include metrological and non-metrological investigative techniques.

Page 7 of 16  
 Safety data sheet according to Regulation (EC) No 1907/2006, Annex II  
 Revision date / version: 30.01.2023 / 0017  
 Replacing version dated / version: 07.12.2021 / 0016  
 Valid from: 30.01.2023  
 PDF print date: 30.01.2023  
 Brake Fluid DOT 4 ESP NV  
 1 | Art.: 6760 7581, Art.: 6764 7581

These are specified by e.g. EN 14042.  
 EN 14042 "Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents".

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

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

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

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

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

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

Thermal hazards:  
 Not applicable

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

## 8.2.3 Environmental exposure controls

No information available at present.

# SECTION 9: Physical and chemical properties

## 9.1 Information on basic physical and chemical properties

Physical state:	Liquid
Colour:	Yellow
Odour:	There is no information available on this parameter.
Melting point/freezing point:	< -50 °C
Boiling point or initial boiling point and boiling range:	>260 °C
Flammability:	There is no information available on this parameter.
Lower explosion limit:	There is no information available on this parameter.
Upper explosion limit:	There is no information available on this parameter.
Flash point:	There is no information available on this parameter.
Auto-ignition temperature:	There is no information available on this parameter.
Decomposition temperature:	There is no information available on this parameter.
pH:	7-10,5
Kinematic viscosity:	15 mm <sup>2</sup> /s (20°C, ASTM D 7042)
Solubility:	Mixable

GB

Page 8 of 16  
 Safety data sheet according to Regulation (EC) No 1907/2006, Annex II  
 Revision date / version: 30.01.2023 / 0017  
 Replacing version dated / version: 07.12.2021 / 0016  
 Valid from: 30.01.2023  
 PDF print date: 30.01.2023  
 Brake Fluid DOT 4 ESP NV  
 1 | Art.: 6760 7581, Art.: 6764 7581

Partition coefficient n-octanol/water (log value):	Does not apply to mixtures.
Vapour pressure:	There is no information available on this parameter.
Density and/or relative density:	1,02-1,09 g/cm <sup>3</sup> (20°C)
Relative vapour density:	There is no information available on this parameter.
Particle characteristics:	Does not apply to liquids.

## 9.2 Other information

Explosives:	Product is not explosive.
Oxidising liquids:	No

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

The product has not been tested.

### 10.2 Chemical stability

Stable with proper storage and handling.

### 10.3 Possibility of hazardous reactions

No dangerous reactions are known.

### 10.4 Conditions to avoid

Heating, open flame, ignition sources

### 10.5 Incompatible materials

Avoid contact with strong alkalis.

Avoid contact with strong oxidizing agents.

Avoid contact with strong acids.

### 10.6 Hazardous decomposition products

No decomposition when used as directed.

## SECTION 11: Toxicological information

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

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

#### Brake Fluid DOT 4 ESP NV

1 | Art.: 6760 7581, Art.: 6764 7581

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	ATE	>2000	mg/kg			calculated value
Acute toxicity, by dermal route:						n.d.a.
Acute toxicity, by inhalation:						n.d.a.
Skin corrosion/irritation:						n.d.a.
Serious eye damage/irritation:						n.d.a.
Respiratory or skin sensitisation:						n.d.a.
Germ cell mutagenicity:						n.d.a.
Carcinogenicity:						n.d.a.
Reproductive toxicity:						n.d.a.
Specific target organ toxicity - single exposure (STOT-SE):						n.d.a.
Specific target organ toxicity - repeated exposure (STOT-RE):						n.d.a.
Aspiration hazard:						n.d.a.
Symptoms:						n.d.a.

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

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>2000	mg/kg	Rat	OECD 401 (Acute Oral Toxicity)	
Acute toxicity, by dermal route:	LD50	>2000	mg/kg	Rat	OECD 402 (Acute Dermal Toxicity)	
Skin corrosion/irritation:				Rabbit	OECD 404 (Acute Dermal Irritation/Corrosion)	Not irritant
Serious eye damage/irritation:				Rabbit	OECD 405 (Acute Eye Irritation/Corrosion)	Not irritant

98

Page 9 of 16  
 Safety data sheet according to Regulation (EC) No 1907/2006, Annex II  
 Revision date / version: 30.01.2023 / 0017  
 Replacing version dated / version: 07.12.2021 / 0016  
 Valid from: 30.01.2023  
 PDF print date: 30.01.2023  
 Brake Fluid DOT 4 ESP NV  
 1 | Art.: 6760 7581, Art.: 6764 7581

Germ cell mutagenicity:					OECD 471 (Bacterial Reverse Mutation Test)	Negative
Reproductive toxicity:	NOAEL	250	mg/kg bw/d	Rabbit	OECD 414 (Prenatal Developmental Toxicity Study)	

2-[2-(2-butoxyethoxy)ethoxy]ethanol						
Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	5100-6616	mg/kg	Rat		
Acute toxicity, by dermal route:	LD50	>2000-6540	mg/kg	Rabbit		
Skin corrosion/irritation:						Not irritant
Serious eye damage/irritation:						Eye Dam. 1
Germ cell mutagenicity:					OECD 471 (Bacterial Reverse Mutation Test)	Negative
Aspiration hazard:						No
Symptoms:						cornea opacity, mucous membrane irritation

Dihydro-3-(tetrapropenyl)furan-2,5-dione						
Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>2000	mg/kg	Rat	OECD 423 (Acute Oral Toxicity - Acute Toxic Class Method)	
Acute toxicity, by dermal route:	LD50	>5000	mg/kg	Rabbit		
Acute toxicity, by inhalation:	LD50	>5,3	mg/l/4h			Aerosol
Skin corrosion/irritation:				Rabbit	OECD 404 (Acute Dermal Irritation/Corrosion)	Not irritant
Serious eye damage/irritation:				Rabbit	OECD 405 (Acute Eye Irritation/Corrosion)	Eye Irrit. 2
Respiratory or skin sensitisation:				Guinea pig	OECD 406 (Skin Sensitisation)	Sensitising
Germ cell mutagenicity:				Salmonella typhimurium	OECD 471 (Bacterial Reverse Mutation Test)	Negative
Germ cell mutagenicity:				Mammalian	OECD 473 (In Vitro Mammalian Chromosome Aberration Test)	Negative, Analogous conclusion
Germ cell mutagenicity:				Mouse	OECD 476 (In Vitro Mammalian Cell Gene Mutation Test)	Negative, Analogous conclusion
Reproductive toxicity (Developmental toxicity):				Rat	OECD 421 (Reproduction/Developmental Toxicity Screening Test)	Negative, Analogous conclusion
Reproductive toxicity (Effects on fertility):				Rat	OECD 421 (Reproduction/Developmental Toxicity Screening Test)	Negative, Analogous conclusion
Specific target organ toxicity - repeated exposure (STOT-RE), oral:	NOAEL	50	mg/kg bw/d	Rat		OECD 421

## 11.2. Information on other hazards

Brake Fluid DOT 4 ESP NV 1   Art.: 6760 7581, Art.: 6764 7581						
Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Endocrine disrupting properties:						Does not apply to mixtures.

Page 10 of 16

Safety data sheet according to Regulation (EC) No 1907/2006, Annex II

Revision date / version: 30.01.2023 / 0017

Replacing version dated / version: 07.12.2021 / 0016

Valid from: 30.01.2023

PDF print date: 30.01.2023

Brake Fluid DOT 4 ESP NV

1 | Art.: 6760 7581, Art.: 6764 7581

Other information:							No other relevant information available on adverse effects on health.
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## SECTION 12: Ecological information

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

### Brake Fluid DOT 4 ESP NV

1 | Art.: 6760 7581, Art.: 6764 7581

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:							n.d.a.
12.1. Toxicity to daphnia:							n.d.a.
12.1. Toxicity to algae:							n.d.a.
12.2. Persistence and degradability:							n.d.a.
12.3. Bioaccumulative potential:							n.d.a.
12.4. Mobility in soil:							n.d.a.
12.5. Results of PBT and vPvB assessment							n.d.a.
12.6. Endocrine disrupting properties:							Does not apply to mixtures.
12.7. Other adverse effects:							No information available on other adverse effects on the environment.
Other information:							According to the recipe, contains no AOX.
Other information:							DOC-elimination degree (complexing organic substance) >= 80%/28d: n.a.

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

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.2. Persistence and degradability:		10d	>70	%		OECD 301 A (Ready Biodegradability - DOC Die-Away Test)	
12.1. Toxicity to fish:	LC50	96h	100,3	mg/l	Oncorhynchus mykiss	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to daphnia:	EC50	48h	>211,2	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to algae:	EC50	72h	>224,4	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance

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

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
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12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance
12.1. Toxicity to fish:	LC50	96h	1305-4600	mg/l	Leuciscus idus		
12.1. Toxicity to fish:	LC50	96h	1350-2400	mg/l	Pimephales promelas		
12.1. Toxicity to daphnia:	EC50	48h	500-2802	mg/l	Daphnia magna		
12.1. Toxicity to algae:	EC50	72h	>500	mg/l	Scenedesmus subspicatus		
12.2. Persistence and degradability:		14d	88	%		OECD 301 E (Ready Biodegradability - Modified OECD Screening Test)	

<b>Dihydro-3-(tetrapropenyl)furan-2,5-dione</b>							
Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	48h	>100	mg/l	Oncorhynchus mykiss	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to daphnia:	LC50	48h	>100	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to algae:	EC0	96h	33	mg/l	Selenastrum capricornutum	OECD 201 (Alga, Growth Inhibition Test)	
12.1. Toxicity to algae:	EC50	72h	100	mg/l	Selenastrum capricornutum	OECD 201 (Alga, Growth Inhibition Test)	
12.2. Persistence and degradability:		28d	0	%		OECD 301 F (Ready Biodegradability - Manometric Respirometry Test)	
Toxicity to bacteria:		3h	800	mg/l	activated sludge	OECD 209 (Activated Sludge, Respiration Inhibition Test (Carbon and Ammonium Oxidation))	

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

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

EC disposal code no.:

The waste codes are recommendations based on the scheduled use of this product.

Owing to the user's specific conditions for use and disposal, other waste codes may be allocated under certain circumstances. (2014/955/EU)

16 01 13 brake fluids

Recommendation:

Sewage disposal shall be discouraged.

Pay attention to local and national official regulations.

E.g. suitable incineration plant.

#### For contaminated packing material

Pay attention to local and national official regulations.

Empty container completely.

Uncontaminated packaging can be recycled.

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

GB

Page 12 of 16  
 Safety data sheet according to Regulation (EC) No 1907/2006, Annex II  
 Revision date / version: 30.01.2023 / 0017  
 Replacing version dated / version: 07.12.2021 / 0016  
 Valid from: 30.01.2023  
 PDF print date: 30.01.2023  
 Brake Fluid DOT 4 ESP NV  
 1 | Art.: 6760 7581, Art.: 6764 7581

## SECTION 14: Transport information

### General statements

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

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

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

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

#### Transport by air (IATA)

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

#### 14.6. Special precautions for user

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

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

Non-dangerous material according to Transport Regulations.

## SECTION 15: Regulatory information

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

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

Directive 2010/75/EU (VOC):	62,98 %
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National requirements/regulations on safety and health protection must be applied when using work equipment.

### 15.2 Chemical safety assessment

A chemical safety assessment is not provided for mixtures.

## SECTION 16: Other information

Revised sections:	3, 11
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These details refer to the product as it is delivered.  
 Employee instruction/training in handling hazardous materials is required.

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

Safety data sheet according to Regulation (EC) No 1907/2006, Annex II  
 Revision date / version: 30.01.2023 / 0017  
 Replacing version dated / version: 07.12.2021 / 0016  
 Valid from: 30.01.2023  
 PDF print date: 30.01.2023  
 Brake Fluid DOT 4 ESP NV  
 1 | Art.: 6760 7581, Art.: 6764 7581

Classification in accordance with regulation (EC) No. 1272/2008 (CLP)	Evaluation method used
Repr. 2, H361d	Classification according to calculation procedure.

The following phrases represent the posted Hazard Class and Risk Category Code (GHS/CLP) of the product and the constituents (specified in Section 2 and 3).

H360D May damage the unborn child.  
 H361d Suspected of damaging the unborn child.  
 H317 May cause an allergic skin reaction.  
 H318 Causes serious eye damage.  
 H319 Causes serious eye irritation.  
 H413 May cause long lasting harmful effects to aquatic life.

Repr. — Reproductive toxicity  
 Eye Dam. — Serious eye damage  
 Eye Irrit. — Eye irritation  
 Skin Sens. — Skin sensitization  
 Aquatic Chronic — Hazardous to the aquatic environment - chronic

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

Regulation (EC) No 1907/2006 (REACH) and Regulation (EC) No 1272/2008 (CLP) as amended.  
 Guidelines for the preparation of safety data sheets as amended (ECHA).  
 Guidelines on labelling and packaging according to the Regulation (EG) Nr. 1272/2008 (CLP) as amended (ECHA).  
 Safety data sheets for the constituent substances.  
 ECHA Homepage - Information about chemicals.  
 GESTIS Substance Database (Germany).  
 German Environment Agency "Rigoletto" information site on substances that are hazardous to water (Germany).  
 EU Occupation Exposure Limits Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, (EU) 2017/164, (EU) 2019/1831, each as amended.  
 National Lists of Occupational Exposure Limits for each country as amended.  
 Regulations on the transport of hazardous goods by road, rail, sea and air (ADR, RID, IMDG, IATA) as amended.

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Page 14 of 16

Safety data sheet according to Regulation (EC) No 1907/2006, Annex II

Revision date / version: 30.01.2023 / 0017

Replacing version dated / version: 07.12.2021 / 0016

Valid from: 30.01.2023

PDF print date: 30.01.2023

Brake Fluid DOT 4 ESP NV

1 | Art.: 6760 7581, Art.: 6764 7581

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

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

Page 16 of 16

Safety data sheet according to Regulation (EC) No 1907/2006, Annex II

Revision date / version: 30.01.2023 / 0017

Replacing version dated / version: 07.12.2021 / 0016

Valid from: 30.01.2023

PDF print date: 30.01.2023

Brake Fluid DOT 4 ESP NV

1 | Art.: 6760 7581, Art.: 6764 7581

LD50 Lethal Dose to 50% of a test population (Median Lethal Dose)

Log Koc Logarithm of adsorption coefficient of organic carbon in the soil

Log Kow, Log Pow Logarithm of octanol-water partition coefficient

LQ Limited Quantities

MARPOL International Convention for the Prevention of Marine Pollution from Ships

n.a. not applicable

n.av. not available

n.c. not checked

n.d.a. no data available

NIOSH National Institute for Occupational Safety and Health (USA)

NLP No-longer-Polymer

NOEC, NOEL No Observed Effect Concentration/Level

OECD Organisation for Economic Co-operation and Development

org. organic

OSHA Occupational Safety and Health Administration (USA)

PBT persistent, bioaccumulative and toxic

PE Polyethylene

PNEC Predicted No Effect Concentration

ppm parts per million

PVC Polyvinylchloride

REACH Registration, Evaluation, Authorisation and Restriction of Chemicals (REGULATION (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals)

REACH-IT List-No. 9xx-xxx-x No. is automatically assigned, e.g. to pre-registrations without a CAS No. or other numerical identifier. List

Numbers do not have any legal significance, rather they are purely technical identifiers for processing a submission via REACH-IT.

RID Règlement concernant le transport International ferroviaire de marchandises Dangereuses (= Regulation concerning the International Carriage of Dangerous Goods by Rail)

SVHC Substances of Very High Concern

Tel. Telephone

TOC Total organic carbon

UN RTDG United Nations Recommendations on the Transport of Dangerous Goods

VOC Volatile organic compounds

vPvB very persistent and very bioaccumulative

wwt wet weight

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

No responsibility.

These statements were made by:

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