



Eni Brake Fluid DOT 4 BX

Safety Data Sheet

SDS EU format according to COMMISSION REGULATION (EU) 2020/878
Revision date: 25/09/2023 Version: 1.0

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

1.1. Product identifier

Product form	: Mixture
Trade name	: Eni Brake Fluid DOT 4 BX
UFI	: 7SNQ-YJPC-210X-2EWQ
Type of product	: Brake fluid
Product group	: Trade product

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

1.2.1. Relevant identified uses

Main use category	: Industrial use, Professional use, Consumer use
Use of the substance/mixture	: Brake fluid

1.2.2. Uses advised against

Recommended use are listed above; other uses are not recommended unless an assessment has provided that risks are controlled.

1.3. Details of the supplier of the safety data sheet

Distributor ENI BENELUX B.V Schouwburgplein 30-34, 3012 CL/Rotterdam T +31(0)10 294 1555 Contact: Health safety & environment techsupportbenelux@eni.com www.enibenelux.com	Distributed by: Enilive Schmiertechnik GmbH, Paradiesstraße 14, 97080 Würzburg, GERMANY, www.enischmiertechnik.de Department responsible for information: Application Engineering & Product Management (AEPM) Tel. +49 (0)931-900 98-0, E-Mail: technik.wuerzburg@eni.com
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1.4. Emergency telephone number

Emergency number	: CNIT +39 0382 24444 (24h) (IT + EN) Poison centre
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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [EU-GHS / CLP]

Reproductive toxicity, Category 2	H361
Full text of H- and EUH-statements: see section 16	

Adverse physicochemical, human health and environmental effects

For specific information about the toxicological/ecotoxicological properties and classification of this product, see Sect. 11 and/or Sect. 12.

2.2. Label elements

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

Hazard pictograms (CLP)



GHS08

CLP Signal word	: Warning
Contains	: Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl]orthoborate
Hazard statements (CLP)	: H361 - Suspected of damaging fertility or the unborn child.
Precautionary statements (CLP)	: P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P280 - Wear protective gloves/protective clothing/eye protection/face protection/hearing protection. P308+P313 - IF exposed or concerned: Get medical advice/attention.

Eni Brake Fluid DOT 4 BX

Safety Data Sheet

SDS EU format according to COMMISSION REGULATION (EU) 2020/878

P405 - Store locked up.

P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

Nordic countries regulation

Denmark

MAL code : 00-1 (Executive Order No. 301 from 1993)

2.3. Other hazards (not relevant for classification)

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

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

Other information : 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 %.

Component	
Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl]orthoborate (30989-05-0)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
Reaction mass of 2-(2-(2-butoxyethoxy)ethoxy)ethanol and 3,6,9,12-tetraoxahexadecan-1-ol	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
2,2'-oxybisethanol; diethylene glycol (111-46-6)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, 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 %

Component	
Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl]orthoborate(30989-05-0)	The substance is not 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
Reaction mass of 2-(2-(2-butoxyethoxy)ethoxy)ethanol and 3,6,9,12-tetraoxahexadecan-1-ol	The substance is not 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
2,2'-oxybisethanol; diethylene glycol(111-46-6)	The substance is not 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

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

Eni Brake Fluid DOT 4 BX

Safety Data Sheet

SDS EU format according to COMMISSION REGULATION (EU) 2020/878

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [EU-GHS / CLP]
Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl]orthoborate	CAS-No.: 30989-05-0 EC-No.: 250-418-4 REACH-no: 01-2119462824-33-0002	30 – 50	Repr. 2, H361d
Reaction mass of 2-(2-(2-butoxyethoxy)ethoxy)ethanol and 3,6,9,12-tetraoxahexadecan-1-ol	EC-No.: 907-996-4 REACH-no: 01-2119531322-53	10 – 14	Eye Dam. 1, H318
2,2'-oxybisethanol; diethylene glycol	CAS-No.: 111-46-6 EC-No.: 203-872-2 EC Index-No.: 603-140-00-6 REACH-no: 01-2119457857-21	1 – 10	Acute Tox. 4 (Oral), H302 (ATE=500 mg/kg bodyweight)

Specific concentration limits:

Name	Product identifier	Specific concentration limits (%)
Reaction mass of 2-(2-(2-butoxyethoxy)ethoxy)ethanol and 3,6,9,12-tetraoxahexadecan-1-ol	EC-No.: 907-996-4 REACH-no: 01-2119531322-53	(20 ≤ C < 30) Eye Irrit. 2, H319 (30 ≤ C < 100) Eye Dam. 1, H318

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 after inhalation	: Remove to fresh air, keep the casualty warm and at rest. If symptoms persist call a doctor.
First-aid measures after skin contact	: Take off contaminated clothing and shoes. Wash thoroughly with soap and water. If skin irritation or rash occurs, get medical advice/attention.
First-aid measures after eye contact	: Rinse eyes thoroughly for at least 15 minutes. Keep eyelids well apart. Remove contact lenses, if present and easy to do so. If irritation, blurred vision or swelling occurs and persists, obtain medical advice from a specialist.
First-aid measures after ingestion	: If the person is fully conscious, make him/her drink plenty of water. Never give an unconscious person anything to drink. Do not induce vomiting.

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

Symptoms/effects after inhalation	: None under normal use.
Symptoms/effects after skin contact	: Prolonged and repeated skin contact may cause reddening, irritation and dermatitis. May cause an allergic skin reaction. Repeated exposure may cause skin dryness or cracking.
Symptoms/effects after eye contact	: None under normal conditions.
Symptoms/effects after ingestion	: Accidental ingestion of small quantities of the product may cause nausea, discomfort and gastric disturbances. If any, nausea and diarrhoea might occur.
Symptoms/effects upon intravenous administration	: No information available.
Chronic symptoms	: None to be reported, according to the present classification criteria.

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

Treat symptomatically. Obtain medical attention if casualty has an altered state of consciousness or if symptoms do not resolve.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Use extinguishing media and procedures appropriate for the surrounding materials.
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Eni Brake Fluid DOT 4 BX

Safety Data Sheet

SDS EU format according to COMMISSION REGULATION (EU) 2020/878

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Not flammable.

5.3. Advice for firefighters

Firefighting instructions : Stop or contain leak at the source, if safe to do so. If possible, move containers and drums away from danger area. Spilled product which is not burning should be covered with sand or foam. Use water sprays to cool containers and surfaces exposed to the flames. If the fire cannot be controlled, evacuate area.

Special protective equipment for firefighters : Personal protection equipment for firefighters (see also sect. 8). Container device with compressed air (DIN EN 137). EN 469. EN 659.

Other information : In case of fire, do not discharge residual product, waste materials and runoff water: collect separately and use a proper treatment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Stop or contain leak at the source, if safe to do so. Eliminate all ignition sources if safe to do so (e.g. electricity, sparks, fires, flares). Avoid direct contact with released material.

6.1.1. For non-emergency personnel

Protective equipment : See Section 8.

Emergency procedures : Keep non-involved personnel away from the area of spillage. Alert emergency personnel. Except in case of small spillages, the feasibility of any actions should always be assessed and advised, if possible, by a trained, competent person in charge of managing the emergency.

6.1.2. For emergency responders

Protective equipment : Small spillages: normal antistatic working clothes are usually adequate. Large spillages: full body suit of chemically resistant and antistatic material. If necessary heat resistant and insulated. Work gloves (preferably gauntlets) providing adequate chemical resistance. Gloves made of PVA are not water-resistant, and are not suitable for emergency use. Antistatic non-skid safety shoes or boots, chemical resistant, if necessary heat resistant and insulated. Work helmet. Goggles and /or face shield, if splashes or contact with eyes is possible or anticipated. Respiratory protection: A half or full-face respirator with combined dust/organic vapour filter(s), or a Self-Contained Breathing Apparatus (SCBA) can be used according to the extent of spill and predictable amount of exposure. If the situation cannot be completely assessed, or if an oxygen deficiency is possible, only SCBA's should be used.

Emergency procedures : Notify local authorities according to relevant regulations.

6.2. Environmental precautions

Prevent product from entering sewers, rivers or other bodies of water. In case of contamination of environment compartments (soil, subsoil, surface or underground waters), remove contaminated soil when possible, and in any case treat all involved compartments in accordance with local regulations.

6.3. Methods and material for containment and cleaning up

For containment : Contain spilled liquid with sand, earth or other suitable absorbents. Recover free liquid in suitable containers. Clean contaminated area. Dispose of according to local regulations. Large spillages may be cautiously covered with foam, if available, to limit fire risk. When inside buildings or confined spaces, ensure adequate ventilation. In case of contamination of environment compartments (soil, subsoil, surface or underground waters), remove contaminated soil when possible, and in any case treat all involved compartments in accordance with local regulations.

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. This material and its container must be disposed of in a safe way, and according to local legislation.

Eni Brake Fluid DOT 4 BX

Safety Data Sheet

SDS EU format according to COMMISSION REGULATION (EU) 2020/878

Other information : Recommended measures are based on the most likely spillage scenarios for this material; however, local conditions (wind, air/water temperature, wave/current direction and speed) may significantly influence the choice of appropriate actions. Local regulations may also prescribe or limit actions to be taken.

6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection". For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Use adequate personal protective equipment as needed. Use and store only in a dry and well-ventilated area. Keep containers tightly closed and properly labelled. Do not weld, solder, drill, cut or incinerate empty containers, unless they have been properly cleaned. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

Hygiene measures : Avoid contact with skin and eyes. Do not breathe fume/ mist/ vapours. Do not ingest. Do not smoke. Do not eat and do not drink during use. Do not clean hands with dirty or oil-soaked rags. Do not re-use clothes, if they are still contaminated. Keep away from food and beverages.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in dry, well ventilated area. Keep away from open flames, hot surfaces and sources of ignition. Do not smoke.

Storage area : Storage area layout, tank design, equipment and operating procedures must comply with the relevant European, national or local legislation. Storage installations should be designed with adequate bunds so as to prevent ground and water pollution in case of leaks or spills. Cleaning, inspection and maintenance of internal structure of storage tanks must be done only by properly equipped and qualified personnel as defined by national, local or company regulations.

Packages and containers: : If the product is supplied in containers: Keep containers tightly closed and properly labelled. Keep only in the original container or in a suitable container for this kind of product.

Packaging materials : Compatibility should be checked with the manufacturer.

7.3. Specific end use(s)

Brake fluids.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

2,2'-oxybisethanol; diethylene glycol (111-46-6)

Austria - Occupational Exposure Limits

MAK (OEL TWA)	44 mg/m ³
MAK [ppm]	10 ppm
MAK (OEL STEL)	176 mg/m ³
MAK Short time value [ppm]	40 ppm

Denmark - Occupational Exposure Limits

OEL TWA [1]	22 mg/m ³
OEL TWA [2]	5 ppm
OEL STEL	11 mg/m ³

Eni Brake Fluid DOT 4 BX

Safety Data Sheet

SDS EU format according to COMMISSION REGULATION (EU) 2020/878

2,2' -oxybisethanol; diethylene glycol (111-46-6)	
Grænseværdi (kortvarig) (ppm)	2,5 ppm
Germany - Occupational Exposure Limits (TRGS 900)	
AGW (OEL TWA) [1]	10 mg/m ³
AGW (OEL TWA) [2]	44 ppm
Limitation of exposure peaks (mg/m ³)	40 mg/m ³
Limitation of exposure peaks (ppm)	176 ppm
Ireland - Occupational Exposure Limits	
OEL TWA [1]	100 mg/m ³
OEL TWA [2]	23 ppm
Latvia - Occupational Exposure Limits	
OEL TWA	10 mg/m ³
Sweden - Occupational Exposure Limits	
NGV (OEL TWA)	45 mg/m ³
Nivågränsvärde (NVG) (ppm)	10 ppm
KTV (OEL STEL)	90 mg/m ³
KTV (OEL STEL) [ppm]	20 ppm

8.1.2. Recommended monitoring procedures

Monitoring methods	
Monitoring methods	Monitoring procedures should be chosen according to the indications set by national authorities or labour contracts. Refer to relevant legislation and in any case to the good practice of industrial hygiene.

8.1.3. Air contaminants formed

Applicable OEL and BLV for air contaminants : None known

8.1.4. DNEL and PNEC

Eni Brake Fluid DOT 4 BX	
DNEL/DMEL (additional information)	
Additional information	Not applicable
PNEC (additional information)	
Additional information	Not applicable
Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl]orthoborate (30989-05-0)	
DNEL/DMEL (Workers)	
Long-term - local effects, dermal	8,3 mg/kg bw/day
Long-term - systemic effects, inhalation	29,1 mg/m ³
DNEL/DMEL (General population)	
Long-term - systemic effects, oral	4,1 mg/kg bw/day
Long-term - systemic effects, inhalation	7,2 mg/m ³
Long-term - systemic effects, dermal	4,1 mg/kg bw/day
PNEC (Water)	
PNEC aqua (freshwater)	0,2112 mg/l

Eni Brake Fluid DOT 4 BX

Safety Data Sheet

SDS EU format according to COMMISSION REGULATION (EU) 2020/878

Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl]orthoborate (30989-05-0)	
PNEC aqua (marine water)	0,02112 mg/l
PNEC aqua (intermittent, freshwater)	2112 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	0,76 mg/kg dwt
PNEC sediment (marine water)	0,076 mg/kg dwt
PNEC (Soil)	
PNEC soil	0,0283 mg/kg dwt
PNEC (STP)	
PNEC sewage treatment plant	100 mg/l
Reaction mass of 2-(2-(2-butoxyethoxy)ethoxy)ethanol and 3,6,9,12-tetraoxahexadecan-1-ol	
DNEL/DMEL (Workers)	
Long-term - systemic effects, dermal	208 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	195 mg/m ³
DNEL/DMEL (General population)	
Long-term - systemic effects, oral	12,5 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	117 mg/m ³
Long-term - systemic effects, dermal	125 mg/kg bodyweight/day
PNEC (Water)	
PNEC aqua (freshwater)	2 mg/l
PNEC aqua (marine water)	0,2 mg/l
PNEC aqua (intermittent, freshwater)	18 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	6,6 mg/kg dwt
PNEC sediment (marine water)	0,66 mg/kg dwt
PNEC (Soil)	
PNEC soil	0,46 mg/kg dwt
PNEC (Oral)	
PNEC oral (secondary poisoning)	111 mg/kg food
PNEC (STP)	
PNEC sewage treatment plant	500 mg/l
2,2'-oxybisethanol; diethylene glycol (111-46-6)	
DNEL/DMEL (Workers)	
Long-term - systemic effects, dermal	106 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	44 mg/m ³
Long-term - local effects, inhalation	60 mg/m ³
DNEL/DMEL (General population)	
Long-term - systemic effects, inhalation	12 mg/m ³
Long-term - systemic effects, dermal	21 mg/kg bodyweight/day

Eni Brake Fluid DOT 4 BX

Safety Data Sheet

SDS EU format according to COMMISSION REGULATION (EU) 2020/878

2,2'-oxybisethanol; diethylene glycol (111-46-6)	
Long-term - local effects, inhalation	12 mg/m ³
PNEC (Water)	
PNEC aqua (freshwater)	10 mg/l
PNEC aqua (marine water)	1 mg/l
PNEC aqua (intermittent, freshwater)	10 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	20,9 mg/kg dwt
PNEC sediment (marine water)	2,09 mg/kg dwt
PNEC (Soil)	
PNEC soil	1,53 mg/kg dwt
PNEC (STP)	
PNEC sewage treatment plant	199,5 mg/l
1,1'-iminodipropan-2-ol; di-isopropanolamine (110-97-4)	
DNEL/DMEL (Workers)	
Long-term - systemic effects, dermal	5 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	6,4 mg/m ³
DNEL/DMEL (General population)	
Long-term - systemic effects, oral	1,3 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	3,9 mg/m ³
Long-term - systemic effects, dermal	6,3 mg/kg bodyweight/day
PNEC (Water)	
PNEC aqua (freshwater)	0,278 mg/l
PNEC aqua (marine water)	0,028 mg/l
PNEC aqua (intermittent, freshwater)	2,777 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	2,33 mg/kg dwt
PNEC sediment (marine water)	0,233 mg/kg dwt
PNEC (Soil)	
PNEC soil	0,303 mg/kg dwt
PNEC (STP)	
PNEC sewage treatment plant	15000 mg/l

Note : The Derived No Effect Level (DNEL) is an estimated safe level of exposure that is derived from toxicity data in accord with specific guidance within the European REACH regulation. The DNEL may differ from an Occupational Exposure Limit (OEL) for the same chemical. OELs may be recommended by an individual company, a governmental regulatory body or an expert organization, such as the Scientific Committee for Occupational Exposure Limits (SCOEL) or the American Conference of Governmental Industrial Hygienists (ACGIH). OELs are considered to be safe exposure levels for a typical worker in an occupational setting for an 8-hour work shift, 40 hour work week, as a time weighted average (TWA) or a 15 minute short-term exposure limit (STEL). While also considered to be protective of health, OELs are derived by a process different from that of REACH.

Eni Brake Fluid DOT 4 BX

Safety Data Sheet

SDS EU format according to COMMISSION REGULATION (EU) 2020/878

8.1.5. Control banding

Control banding : None known

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

8.2.2. Personal protection equipment

Personal protective equipment (for industrial or professional use):

Gloves. Protective clothing. Safety glasses. Safety shoes or boots.

Personal protective equipment symbol(s):



8.2.2.1. Eye and face protection

Eye protection:

When there is a risk of contact with the eyes, use safety goggles or other means of protection (face shield). If necessary, refer to national standards or to the EN 166 standard.

8.2.2.2. Skin protection

Skin and body protection:

Long-sleeved overalls. If necessary, refer to the EN 340 and related standards, for definition of characteristics and performance according to the risk rating of the area.

Hand protection:

Chemical resistant gloves (according to European standard NF ISO 374-1 or equivalent). Adequate materials: nitrile (NBR) or PVC with a protection index > 5 (permeation time > 240 mins). Use gloves respecting all the conditions and within the limits set by the manufacturer. Replace gloves immediately in case of cuts, holes or other signs of damages or degradation. If necessary, refer to the EN 374 standard. Personal hygiene is a key element for an effective hand care. Gloves must be worn only with clean hands. After wearing gloves, hands must be carefully washed and dried.

8.2.2.3. Respiratory protection

Respiratory protection:

Not necessary with sufficient ventilation. Independently from other possible actions (technical modifications, operating procedures, and other means to limit the exposure of workers), personal protection equipment can be used according to necessity. In case of inadequate ventilation wear respiratory protection (EN 136/140/145). High gas/vapour concentration: gas mask with filter type A. Combined gas/dust mask with filter type: EN 14387

8.2.2.4. Thermal hazards

Thermal hazard protection:

None in normal use conditions.

8.2.3. Environmental exposure controls

Environmental exposure controls:

Do not discharge the product into the environment. Prevent discharge of undissolved substance to or recover from onsite wastewater. Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.

Consumer exposure controls:

No special requirements necessary, if handled at room temperature.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: Yellow.
Appearance	: Liquid, bright & clear.
Odour	: characteristic.
Odour threshold	: There are no data available on the preparation/mixture itself.

Eni Brake Fluid DOT 4 BX

Safety Data Sheet

SDS EU format according to COMMISSION REGULATION (EU) 2020/878

Melting point	: Not applicable
Freezing point	: < -50 °C
Softening point	: < -70 °C DIN 51583
Boiling point	: > 260 °C FMVSS 116
Flammability	: Not flammable
Lower explosion limit	: 1,5 vol %
Upper explosion limit	: Not available
Flash point	: > 139 °C DIN EN ISO 2719
Auto-ignition temperature	: Lack of data (on mixture / components of the mixture) - Data not available
Decomposition temperature	: 360 °C DSC
pH	: ≈ 8,5 FMVSS 116
Viscosity, kinematic	: 15 – 17 mm ² /s FMVSS 116
Solubility	: Soluble in water. Water: Completely miscible
Log Kow	: Not applicable for mixtures
Log Pow	: Not applicable for mixtures
Vapour pressure	: < 1 hPa
Vapour pressure at 50°C	: Not available
Density	: 1,06 g/cm ³ DIN 51757
Relative density	: Lack of data (on mixture / components of the mixture) - Data not available
Relative vapour density at 20°C	: Lack of data (on mixture / components of the mixture) - Data 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

Relative evaporation rate (butylacetate=1)	: Negligible.
Other properties	: Hygroscopic product

SECTION 10: Stability and reactivity

10.1. Reactivity

This mixture does not offer any further hazard for reactivity, except what is reported in the following paragraphs.

10.2. Chemical stability

Stable product, according to its intrinsic properties (in normal conditions of storage and handling).

10.3. Possibility of hazardous reactions

None (in normal conditions of storage and handling).

10.4. Conditions to avoid

None in normal conditions.

10.5. Incompatible materials

None known.

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

Eni Brake Fluid DOT 4 BX

Safety Data Sheet

SDS EU format according to COMMISSION REGULATION (EU) 2020/878

Additional information : (according to composition)
The ethylene glycol present in this formulation may cause intoxication, central nervous system depression (incoordination, dizziness), respiratory failure, liver and kidney damage. The effects may be delayed.
The toxic (fatal) dose for pure ethylene glycol has been estimated 1.4 ml/kg wt (about 100 ml for an adult person).

Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl]orthoborate (30989-05-0)	
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:

2,2' -oxybisethanol; diethylene glycol (111-46-6)	
LD50 oral rat	12565 mg/kg bodyweight
LD50 dermal rabbit	11890 mg/kg bodyweight

Skin corrosion/irritation : Not classified (Based on available data, the classification criteria are not met) pH: ≈ 8,5 FMVSS 116

Additional information : (according to composition)

Serious eye damage/irritation : Not classified (Based on available data, the classification criteria are not met) pH: ≈ 8,5 FMVSS 116

Additional information : (according to composition)

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)

Additional information : (according to composition)

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

Additional information : (according to composition)

Reproductive toxicity : Suspected of damaging fertility or the unborn child. (Based on available data, the classification criteria are not met)

Additional information : (according to composition)

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

Additional information : (according to composition)

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

Additional information : (according to composition)

Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl]orthoborate (30989-05-0)	
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)

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

Additional information : (according to composition)

Eni Brake Fluid DOT 4 BX	
Viscosity, kinematic	15 – 17 mm ² /s FMVSS 116

Reaction mass of 2-(2-(2-butoxyethoxy)ethoxy)ethanol and 3,6,9,12-tetraoxahexadecan-1-ol	
Viscosity, kinematic	9,2 mm ² /s Temp.: 'other:' Parameter: 'kinematic viscosity (in mm ² /s)' Remarks on result: 'other:'

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

Adverse health effects caused by endocrine disrupting properties : None known, 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 %

Eni Brake Fluid DOT 4 BX

Safety Data Sheet

SDS EU format according to COMMISSION REGULATION (EU) 2020/878

11.2.2. Other information

Other information : None

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : An uncontrolled release to the environment may produce a contamination of different environmental compartments (air, soil, underground, surface water bodies, aquifers). Handle according to general working hygiene practices to avoid pollution and release into the environment. Notify authorities if product enters sewers or public waters.

Hazardous to the aquatic environment, short-term (acute) : Not classified (Based on available data, the classification criteria are not met)

Hazardous to the aquatic environment, long-term (chronic) : Not classified

Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl]orthoborate (30989-05-0)	
LC50 fish 1	> 222,2 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
LC50 fish 2	> 1010 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
EC50 Daphnia 1	> 211,2 mg/l Test organisms (species): Daphnia magna
EC50 Daphnia 2	> 960 mg/l Test organisms (species): Daphnia magna
EC50 other aquatic organisms 1	> 170 mg/l (Daphnia magna; OCSE 202)
EC50 72h - Algae [1]	> 224,4 mg/l Test organisms (species): other:
EC50 72h - Algae [2]	> 1020 mg/l Test organisms (species): other:

Reaction mass of 2-(2-(2-butoxyethoxy)ethoxy)ethanol and 3,6,9,12-tetraoxahexadecan-1-ol	
LC50 fish 1	> 1800 mg/l Test organisms (species): other:
EC50 Daphnia 1	> 3200 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	1075 mg/l Test organisms (species): Scenedesmus capricornutum
EC50 72h - Algae [2]	2490 mg/l Test organisms (species): Scenedesmus capricornutum
NOEC (chronic)	> 100 mg/l Test organisms (species): Daphnia magna Duration: '21 d'

2,2'-oxybisethanol; diethylene glycol (111-46-6)	
LC50 fish 1	> 1000 mg/l
EC50 Daphnia 1	> 10000 mg/l (24h)

12.2. Persistence and degradability

Eni Brake Fluid DOT 4 BX	
Persistence and degradability	Not available.

Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl]orthoborate (30989-05-0)	
Persistence and degradability	Readily biodegradable.

12.3. Bioaccumulative potential

Eni Brake Fluid DOT 4 BX	
Log Pow	Not applicable for mixtures
Log Kow	Not applicable for mixtures

Eni Brake Fluid DOT 4 BX

Safety Data Sheet

SDS EU format according to COMMISSION REGULATION (EU) 2020/878

Eni Brake Fluid DOT 4 BX	
Bioaccumulative potential	Not established.
Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl]orthoborate (30989-05-0)	
Log Kow	< 3
Bioaccumulative potential	Low bioaccumulation potential.
2,2'-oxybisethanol; diethylene glycol (111-46-6)	
Log Pow	-1,98

12.4. Mobility in soil

Eni Brake Fluid DOT 4 BX	
Ecology - soil	No data available.
Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl]orthoborate (30989-05-0)	
Ecology - soil	Small adsorption.

12.5. Results of PBT and vPvB assessment

Eni Brake Fluid DOT 4 BX	
This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII	
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII	
Results of PBT-vPvB assessment	The components in this formulation do not meet the criteria for classification as PBT or vPvB. The product should be considered as "Not persistent" in the environment, according to the REACH Annex XIII criteria (point 1.1)

Component	
Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl]orthoborate (30989-05-0)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
Reaction mass of 2-(2-(2-butoxyethoxy)ethoxy)ethanol and 3,6,9,12-tetraoxahexadecan-1-ol	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
2,2'-oxybisethanol; diethylene glycol (111-46-6)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

12.6. Endocrine disrupting properties

Adverse effects on the environment caused by endocrine disrupting properties : Endocrine disrupting properties (Article 57(f) — environment): None known. 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 %.

12.7. Other adverse effects

Other adverse effects : None.
Additional information : No other effects known

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Do not dispose of the product, either new or used, by discharging into sewers, tunnels, lakes or water courses. Deliver to a qualified official collector.

Eni Brake Fluid DOT 4 BX

Safety Data Sheet

SDS EU format according to COMMISSION REGULATION (EU) 2020/878

Product/Packaging disposal recommendations	: European Waste Catalogue code(s) (Decision 2001/118/CE): 16 01 13* (brake fluids). This EWC code is only a general indication, and takes into account the original composition of the product and its intended use. The user has the responsibility of choosing the right EWC code, considering the actual use of the product, alterations and contaminations.
Additional information	: Empty containers may contain combustible product residues. Do not cut, weld, drill, burn or incinerate empty containers or drums, unless they have been cleaned, and declared safe.
EURAL code (EWC)	: 16 01 13* - brake fluids

SECTION 14: Transport information

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

ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
Not regulated for transport				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.2. UN proper shipping name				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.3. Transport hazard class(es)				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.4. Packing group				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.5. Environmental hazards				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
None.				

14.6. Special precautions for user

Overland transport

Not regulated

Transport by sea

Not regulated

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

Eni Brake Fluid DOT 4 BX

Safety Data Sheet

SDS EU format according to COMMISSION REGULATION (EU) 2020/878

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

Other information, restriction and prohibition regulations : Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH). (et sequens). Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 (et sequens). Directives 89/391/CEE, 89/654/CEE, 89/655/CEE, 89/656/CEE, 90/269/CEE, 90/270/CEE, 90/394/CEE, 90/679/CEE, 93/88/CEE, 95/63/CE, 97/42/CE, 98/24/CE, 99/38/CE, 99/92/CE, 2001/45/CE, 2003/10/CE, 2003/18/CE (Health and safety on the workplace). Directive 2012/18/CE (Control of major-accident hazards involving dangerous substances). Directive 2004/42/CE (Limitation of emissions of Volatile Organic Compounds). Directive 98/24/EC (protection of the health and safety of workers from the risks related to chemical agents at work). Directive 92/85/CE (measures to encourage improvements in the safety and health at work of pregnant workers and workers who have recently given birth or are breastfeeding). Substances Depleting the Ozone layer (1005/2009) - Annex I Substances (ODP). POP (2019/1021) - Persistent Organic Pollutants. Regulation EU (649/2012) - Export and Import of hazardous chemicals (PIC). Commission Delegated Regulation (EU) 2017/2100. Commission Regulation (EU) 2018/605.

REACH Annex XVII (Restriction List)

EU restriction list (REACH Annex XVII)		
Reference code	Applicable on	Entry title or description
3(b)	Eni Brake Fluid DOT 4 BX ; Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl]orthoborate ; Reaction mass of 2-(2-(2-butoxyethoxy)ethoxy)ethanol and 3,6,9,12-tetraoxahexadecan-1-ol ; 2,2' -oxybisethanol; diethylene glycol	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

REACH Annex XIV (Authorisation List)

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

REACH Candidate List (SVHC)

No ingredients are included in the REACH Candidate list (> 0,1 % m/m).

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)

Eni Brake Fluid DOT 4 BX

Safety Data Sheet

SDS EU format according to COMMISSION REGULATION (EU) 2020/878

15.1.2. National regulations

National adoption of EU Directives concerning health and safety on the workplace.

National adoption of EU Directives concerning control of major-accident hazards involving dangerous substances (2012/18/CE).

Relevant national laws on prevention of water pollution.

Relevant national laws on protection of the health of pregnant workers (National adoption of Dir. 92/85/EEC).

Germany

Employment restrictions	: Employment prohibitions and restrictions according to § 11 and § 12 MuSchG have to be observed.
VbF class (D)	: Not applicable.
Water hazard class (WGK) (D)	: WGK 1, Slightly hazardous to water (Classification according to AwSV, Annex 1).
WGK remark	: Classification is carried out on the basis of the Ordinance on facilities for handling substances that are hazardous to water (Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen (AwSV)) of 18 April 2017 (BGBl 2017, Teil I, Nr. 22, Seite 905).
Storage class (LGK, TRGS 510)	: LGK 12 - Non-combustible liquids.
Hazardous Incident Ordinance (12. BImSchV)	: Is not subject of the Hazardous Incident Ordinance (12. BImSchV)

Netherlands

Waterbevaarlijkheid	: 8 - Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment 9 - Harmful to aquatic organisms
Saneringsinspanningen	: C - Minimize discharge
SZW-lijst van kankerverwekkende stoffen	: None of the components are listed
SZW-lijst van mutagene stoffen	: None of the components are listed
SZW-lijst van reprotoxische stoffen – Borstvoeding	: None of the components are listed
SZW-lijst van reprotoxische stoffen –	: None of the components are listed
Vruchtbaarheid	
SZW-lijst van reprotoxische stoffen – Ontwikkeling	: None of the components are listed

Denmark

MAL code	: 00-1 (Executive Order No. 301 from 1993)
Danish National Regulations	: Young people under 18 years are not allowed to use the product

15.2. Chemical safety assessment

For this mixture a chemical safety assessment has been not carried out

A chemical safety assessment has been carried out for the following components of this mixture::

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

2,2'-oxybisethanol; diethylene glycol

SECTION 16: Other information

Indication of changes			
Section	Changed item	Change	Notes
	First issue.		

Abbreviations and acronyms:

	Complete text of the H phrases quoted in this Safety Data Sheet. These phrases are reported here for information only, and MAY NOT correspond to the classification of the product.
	N/D = not available
	N/A = not applicable
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

Eni Brake Fluid DOT 4 BX

Safety Data Sheet

SDS EU format according to COMMISSION REGULATION (EU) 2020/878

Abbreviations and acronyms:	
CAS-No.	Chemical Abstract Service number
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC50	Effective concentration for 50 percent of test population (median effective concentration)
EC-No.	European Community number
ED	Endocrine disrupting properties
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Lethal concentration for 50 percent of test population (median lethal concentration)
LD50	Lethal dose for 50 percent of test population (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
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals, Regulation (EC) No 1907/2006
RID	Regulation concerning the International Carriage of Dangerous Goods by Railways
SDS	Safety Data Sheet
STP	Sewage treatment plant
VOC	Volatile Organic Compounds
vPvB	Very Persistent and Very Bioaccumulative
WGK	Water Hazard Class

Data sources	: This Safety Data Sheet is based on the real characteristics of the components and their combination, taking into account the information provided by the suppliers.
Training advice	: Provide adequate training to professional operators for the use of PPEs, according to the information contained in this Safety Data Sheet.
Other information	: Do not use the product for any purposes that have not been advised by the manufacturer.

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.

Eni Brake Fluid DOT 4 BX

Safety Data Sheet

SDS EU format according to COMMISSION REGULATION (EU) 2020/878

Full text of H- and EUH-statements:

H361	Suspected of damaging fertility or the unborn child.
H361d	Suspected of damaging the unborn child.
Repr. 2	Reproductive toxicity, Category 2

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Repr. 2	H361	Calculation method
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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.