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

1.1. Product identifier
ENV4 1987479200-GEH, 1987479201-GEH,1987479202-GEH,1987479203-GEH,1987479204-GEH,1987479205-GEH

1.2. Relevant identified uses of the substance or mixture and uses advised against
Use of the substance/mixture
Brake fluid

1.3. Details of the supplier of the safety data sheet

Company name:	Robert Bosch GmbH
Street:	Auf der Breit 4
Place:	D-76227 Karlsruhe
Telephone:	+49 721-942-0
Responsible Department:	Service Deutschland: 0 900 1 942 010-5 Responsible for the safety data sheet: sds@gbk-ingelheim.de

1.4. Emergency telephone number:
INTERNATIONAL: +49 - (0) 6132 - 84463, GBK GmbH (24h - 7d/w - 365d/a)
In England and Wales: NHS 111 In Scotland: NHS 24 - dial 111

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture
Regulation (EC) No. 1272/2008
Hazard categories:
Reproductive toxicity: Repr. 2
Hazard Statements:
Suspected of damaging the unborn child.

2.2. Label elements
Regulation (EC) No. 1272/2008

Hazard components for labelling
Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate

Signal word: Warning

Pictograms:

Hazard statements

H361d	Suspected of damaging the unborn child.

Precautionary statements

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P308+P311	IF exposed or concerned: Call a POISON CENTER/doctor.
P405	Store locked up.
P501	Dispose of contents/container to in accordance with local and national regulations.

2.3. Other hazards
According to Regulation (EC) No 1907/2006 (REACH) none of the substances, contained in this product are a PBT / vPvB substance.

SECTION 3: Composition/information on ingredients

3.2. Mixtures
Chemical characterization
Mixture of the following substances with non-hazardous admixtures

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	GHS Classification			
30989-05-0	Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate			50 - 60 %
	250-418-4		01-2119462824-33	
	Repr. 2; H361d			
143-22-6	2-[2-(2-Butoxyethoxy) ethoxy] ethanol			< 4 %
	205-592-6	603-183-00-0	01-2119475107-38	
	Eye Dam. 1; H318			
	Reaction mass of 2-(2-(2-butoxyethoxy)ethoxy)ethanol and 3,6,9,12-tetraoxahexadecan-1-ol			< 4 %
	907-996-4		01-2119531322-53	
	Eye Dam. 1; H318 EUH066			
111-77-3	2-(2-methoxyethoxy)ethanol, diethylene glycol monomethyl ether			< 2 %
	203-906-6	603-107-00-6	01-2119475100-52	
	Repr. 2; H361d			
110-97-4	1,1'-iminodipropan-2-ol, di-isopropanolamine			< 2 %
	203-820-9	603-083-00-7	01-2119475444-34	
	Eye Irrit. 2; H319			

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

Further Information
Specific concentration limits
2-[2-(2-Butoxyethoxy) ethoxy] ethanol
H319: 20% =< C < 30%
H318: C >= 30%

SECTION 4: First aid measures

4.1. Description of first aid measures

General information
Remove and wash contaminated clothing before re-use.
If you feel unwell, seek medical advice.

After inhalation
Move to fresh air in case of accidental inhalation of fumes from overheating or combustion.

After contact with skin
In case of contact with skin wash off immediately with soap and water .
Consult a doctor if skin irritation persists.

After contact with eyes
Remove contact lens.
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Seek medical treatment by eye specialist.

After ingestion
Do not induce vomiting.
Rinse out mouth and give plenty of water to drink.
Never give anything by mouth to an unconscious person.
Call a physician immediately.
Induce vomiting only upon the advice of a physician.

4.2. Most important symptoms and effects, both acute and delayed
Suspected of damaging the unborn child.

4.3. Indication of any immediate medical attention and special treatment needed
Treat symptoms.
No specific antidotes are known.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media
Foam, carbon dioxide (CO2), dry chemical, water-spray

Unsuitable extinguishing media
Full water jet.

5.2. Special hazards arising from the substance or mixture

Fire may produce:
carbon monoxide (CO), carbon dioxide (CO2) and nitrogen oxides (NOx)

5.3. Advice for firefighters

In case of fire, wear suitable respiratory equipment with positive air supply.
Protective suit.

Additional information
Cool containers at risk with water spray jet.
Fire residues and contaminated firefighting water must be disposed of in accordance with the local regulations.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective clothing.
Ensure adequate ventilation.
Attention. Hazard of skidding.

6.2. Environmental precautions

Do not discharge into the drains/surface waters/ground water.

6.3. Methods and material for containment and cleaning up

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder). Shovel into suitable container for disposal.

6.4. Reference to other sections

Observe protective instructions (see Sections 7 and 8).
Information for disposal see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling
Avoid contact with skin, eyes and clothing.
Ensure adequate ventilation.
Reacts with air to form peroxides.

Advice on protection against fire and explosion
No special protective measures against fire required.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels
To be kept tightly closed, in a cool and dry place.
Protect against direct sun radiation.
Protect from atmospheric moisture and water.

Hints on joint storage
Incompatible with oxidizing agents.

Further information on storage conditions
Keep away from food, drink and animal feeding stuffs.

7.3. Specific end use(s)

Brake fluid

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

CAS No	Substance	ppm	mg/m³	fibres/ml	Category	Origin
111-77-3	2-(2-Methoxyethoxy)ethanol	10	50.1		TWA (8 h)	WEL

8.2. Exposure controls

Appropriate engineering controls
Ensure adequate ventilation, especially in confined areas.

Protective and hygiene measures
Use barrier skin cream.
Remove and wash contaminated clothing before re-use.
Wash hands before breaks and at the end of workday .
Avoid contact with skin, eyes and clothing.
When using do not eat, drink or smoke.

Eye/face protection
Safety goggles (EN 166).
Eye wash bottle with pure water (EN 15154).

Hand protection
Short time contact:
Protective gloves resistant to chemicals made off butyl, minimum coat thickness 0.7 mm, permeation resistance (wear duration) > 30 minutes, i.e. protective glove <Butoject 898> made by www.kcl.de.
Protective gloves resistant to chemicals made off nitrile, minimum coat thickness 0.4 mm, permeation resistance (wear duration) approx. 60 minutes, i.e. protective glove <Camatril Velours 730> made by www.kcl.de.
This recommendation refers exclusively to the chemical compatibility and the lab test conforming to EN 374 carried out under lab conditions.
Requirements can vary as a function of the use. Therefore it is necessary to adhere additionally to the recommendations given by the manufacturer of protective gloves.

Skin protection
Long sleeved clothing (DIN EN ISO 6530)

Respiratory protection
No personal respiratory protective equipment normally required.
In case of insufficient ventilation wear suitable respiratory equipment (gas filter type A) (EN 14387).

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Liquid	
Colour:	Yellow	
Odour:	Characteristic	
pH-Value:	7 - 8,5	

Changes in the physical state

Melting point:	n.d.	
Initial boiling point and boiling range:	265 °C	ASTM D 1120
Sublimation point:	n.a.	
Solidifying point:	< - 50 °C	DIN/ISO 3016
Flash point:	135,5 °C	DIN EN ISO 2719

Flammability

Solid:	n.a.
Gas:	n.a.

Explosive properties
The product is not explosive.

Lower explosion limits:	n.d.

Upper explosion limits:	n.d.	
Ignition temperature:	> 200 °C	DIN EN 14522

Auto-ignition temperature

Solid:	n.a.
Gas:	n.a.
Decomposition temperature:	n.d.

Oxidizing properties

Not fire-promoting.

Vapour pressure: (at 20 °C)	1 hPa
Vapour pressure: (at 50 °C)	1 hPa
Density (at 20 °C):	approx. 1,06 g/cm³
Water solubility: (at 20 °C)	Miscible

Solubility in other solvents

n.d.

Partition coefficient:	n.d.
Viscosity / dynamic:	n.d.
Viscosity / kinematic:	n.d.
Flow time:	n.d.
Vapour density:	n.d.
Evaporation rate:	n.d.
Solvent separation test:	0 %
Solvent content:	0 %

9.2. Other information

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

No decomposition if used as directed.
Not corrosive to metals.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Reactions with oxidizing agents.
Reacts with air to form peroxides.

10.4. Conditions to avoid

Keep away from open flames, hot surfaces and sources of ignition.
To avoid thermal decomposition, do not overheat.

10.5. Incompatible materials

strong oxidizing agents
Humid air

10.6. Hazardous decomposition products

No hazardous decomposition products known.
Fire may produce:
carbon monoxide (CO), carbon dioxide (CO2) and nitrogen oxides (NOx)

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity

Based on available data, the classification criteria are not met.
LD50/oral/rat: > 2000 mg/kg

Irritation and corrosivity

Based on available data, the classification criteria are not met.

Sensitising effects
Based on available data, the classification criteria are not met.
Not classified.

Carcinogenic/mutagenic/toxic effects for reproduction
Suspected of damaging the unborn child. (Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate; 2-(2-methoxyethoxy)ethanol, diethylene glycol monomethyl ether)
Germ cell mutagenicity: Based on available data, the classification criteria are not met.
Carcinogenicity: Based on available data, the classification criteria are not met.

STOT-single exposure
Based on available data, the classification criteria are not met.

STOT-repeated exposure
Based on available data, the classification criteria are not met.

Aspiration hazard
Based on available data, the classification criteria are not met.

Additional information on tests
Classification in compliance with the assessment procedure specified in the Regulation (EC) no 1272/2008.

Practical experience

Other observations
Contact with eyes may cause irritation.
Prolonged contact may irritate skin.
Inhalation of vapours is irritating to the respiratory system, may cause throat pain and cough.
Ingestion causes irritation of upper respiratory system and gastrointestinal disturbance.

SECTION 12: Ecological information

12.1. Toxicity
Ecological data are not available.
LC50/Leuciscus idus/96 h > 100 mg/l

12.2. Persistence and degradability
Biodegradable (OECD): > 70% (28 d, OECD 302B)
Readily biodegradable.

12.3. Bioaccumulative potential
There is no indication of bioaccumulation potential.

12.4. Mobility in soil
No data available

12.5. Results of PBT and vPvB assessment
According to Regulation (EC) No 1907/2006 (REACH) none of the substances, contained in this product are a PBT / vPvB substance.

12.6. Other adverse effects
Low hazard to waters.

Further information
Do not flush into surface water or sanitary sewer system.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Advice on disposal
Remove in accordance with local official regulations.

Waste disposal number of waste from residues/unused products

160113	WASTES NOT OTHERWISE SPECIFIED IN THE LIST; end-of-life vehicles from different means of transport (including off-road machinery) and wastes from dismantling of end-of-life vehicles and vehicle maintenance (except 13, 14, 16 06 and 16 08); brake fluids; hazardous waste

Contaminated packaging
Empty containers should be taken for local recycling, recovery or waste disposal.

Contaminated packaging should be emptied as far as possible and after appropriate cleansing may be taken for reuse.
Packaging that cannot be cleaned should be disposed of like the product.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. **UN number:**	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

Inland waterways transport (ADN)

14.1. UN number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

Marine transport (IMDG)

14.1. **UN number:**	No dangerous good in sense of this transport regulation.
14.2. **UN proper shipping name:**	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

Air transport (ICAO-TI/IATA-DGR)

14.1. **UN number:**	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

14.6. Special precautions for user

No dangerous good in sense of this transport regulation.

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

No dangerous good in sense of this transport regulation.

SECTION 15: Regulatory information

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

EU regulatory information

Restrictions on use (REACH, annex XVII):
Entry 54: 2-(2-methoxyethoxy)ethanol, diethylene glycol monomethyl ether

2004/42/EC (VOC):	0 %
Information according to 2012/18/EU (SEVESO III):	Not subject to 2012/18/EU (SEVESO III)

National regulatory information

Employment restrictions:	Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers. Observe employment restrictions for women of child-bearing age.

15.2. Chemical safety assessment

For this substance a chemical safety assessment has not been carried out.

SECTION 16: Other information

Abbreviations and acronyms

ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route
RID = Règlement concernant le transport international ferroviaire de marchandises dangereuses
ADN = Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure
IMDG = International Maritime Code for Dangerous Goods
IATA/ICAO = International Air Transport Association / International Civil Aviation Organization
MARPOL = International Convention for the Prevention of Pollution from Ships
IBC-Code = International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
REACH = Registration, Evaluation, Authorization and Restriction of Chemicals
CAS = Chemical Abstract Service
EN = European norm
ISO = International Organization for Standardization
DIN = Deutsche Industrie Norm
PBT = Persistent Bioaccumulative and Toxic

LD = Lethal dose
LC = Lethal concentration
EC = Effect concentration
IC = Median immobilisation concentration or median inhibitory concentration

Relevant H and EUH statements (number and full text)

H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H361d	Suspected of damaging the unborn child.
EUH066	Repeated exposure may cause skin dryness or cracking.

Further Information

Weitere Informationen :
Data of items 4 to 8, as well as 10 to 12, do partly not refer to the use and the regular employing of the product (in this sense consult information on use and on product), but to liberation of major amounts in case of accidents and irregularities.
The information describes exclusively the safety requirements for the product(s) and is based on the present level of our knowledge.
The delivery specifications are contained in the corresponding product sheet.
This data does not constitute a guarantee for the characteristics of the product(s) as defined by the legal warranty regulations.
(n.a. = not applicable; n.d. = not determined)

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)