



### Section 1. Identification of the substance/mixture and of the company/undertaking.

1.1 Product identifier: Eni Brake Fluid DOT 4

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: Eni Schmiertechnik GmbH  
 Paradiesstr. 14, 97080 Würzburg  
 Tel. (+ 49) 931 - 900 98-0 Fax (+ 49) 931-98442

Advising/Support: Technical Department, Tel. (+49) 931 900 98-145  
 technik.wuerzburg@agip.de  
 www.enischmiertechnik-datenblaetter.de

### Section 2. Hazards identification.

2.1 Classification of the substance or mixture:  
 Regulation (EC) No. 1272/2008: This mixture is not classified as hazardous according to Regulation (EC) No. 1272/2008.

2.2 Label elements: ---

### Section 3. Composition/information on ingredients.

3.2 Mixtures:  
 Hazardous components:

CAS-No.	Chemical name	Quantity
	EC-No.      Index-No.      REACH-No.	
	Classification according to Regulation (EC) No. 1272/2008 [CLP]	
161907-77-3	Ethanol, 2-butoxy-, production of, by-product of	< 15%
	310-287-7      01-2119475115-41	
	Eye Dam. 1; H318	
111-46-6	2,2'-oxybisethanol; diethylene glycol	< 10%
	203-872-2      603-140-00-6	
	Acute Tox. 4; H302	
110-97-4	1,1'-Iminodipropan-2-ol, diisopropanolamine	< 2%
	203-820-9      603-083-00-7	
	Eye Irrit. 2; H319	

Full text for H- and EUH-phrases: see Section 16.

### Section 4. First aid measures.

4.1 Description of first aid measures:

General information: Self-protection of the first aider Change contaminated clothing. Do not put any product-impregnated cleaning rags into your trouser pockets.

After inhalation: In case of inhalation of aerosols/spray mist/splash spots: Consult physician. Provide fresh air. Avoid breathing dust/fume/gas/mist/vapours/spray. IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.

After contact with skin: After contact with skin, take off immediately all contaminated clothing and wash immediately with plenty of water and soap. If skin irritation or rash occurs: Get medical advice/attention.

After contact with eyes: Rinse immediately carefully and thoroughly with eye-bath or water. Consult an ophthalmologist.

After ingestion: Call a physician immediately.

4.2 Most important symptoms and effects both acute and delayed: No known symptoms to date.

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



### Section 5. Fire fighting measures.

- 5.1 Extinguishing media:  
 Suitable extinguishing agents: Carbon dioxide CO<sub>2</sub>, dry extinguishing powder, alcohol resistant foam. Water spray.
- 5.2 Special hazards arising from the substance or mixture: Special exposure hazards arising from the substance itself, combustion products, resulting gases: CO, NO<sub>x</sub>.
- 5.3 Advice for fire fighters: In case of fire: Wear self-contained breathing apparatus.

### Section 6. Accidental release measures.

- 6.1 Personal precautions, protective equipment and emergency procedures: Provide adequate ventilation. Wear suitable protective clothing.
- 6.2 Environmental precautions: Do not allow to enter into surface water or drains.
- 6.3 Methods and material for containment and cleaning up: Absorb with liquid-binding material (e. g. sand, diatomaceous earth, acid or universal binding agents). Treat the recovered materials as prescribed in the section on waste disposal.

### Section 7. Handling and storage.

- 7.1 Precautions for safe handling:  
 Advice on safe handling: No special handling instructions are necessary.
- Advice on protection against fire and explosion: Keep away from combustible material.
- 7.2 Conditions for safe storage, including any incompatibilities:  
 Requirements for storage rooms and vessels: Keep container tightly closed and dry.

### Section 8. Exposure controls/personal protection.

- 8.1 Control parameters:  
 Exposure limits (EH40):

CAS-No.	Substance	ppm	mg/m <sup>3</sup>	fibres/ml	Category	Origin
111-46-6	2,2'-Oxydiethanol	23	101		TWA (8 h)	WEL
		--	--		STEL (15 min.)	WEL

- 8.2 Exposure controls:  
 Protective and hygiene measures: Change contaminated clothing. Wash hands before breaks and after work. When using do not eat or drink. Avoid contact with skin and eyes.
- Eye/face protection: Wear eye/face protection.
- Hand protection: The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances.  
 NBR (nitrile rubber): 0,4 mm; 30 min.  
 Butyl rubber: 0,7 mm; 480 min.
- Respiratory protection: If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn. Full mask (DIN EN 136).
- Further regulations, limitations and legal requirements: National regulations, Regulatory information, EU legislation.

### Section 9. Physical and chemical properties.

- 9.1 Information on basic physical and chemical properties:  
 Physical state: Liquid  
 Colour: Yellow  
 Odour: Characteristic  
 pH value: 7,5 – 9 (FMVSS 116)



Changes in the physical state:

Initial boiling point and boiling range:	> 260°C (FMVSS 116)
Setting point:	< -70°C (DIN 51583)
Flashpoint:	> 125°C (DIN EN ISO 2719)
Lower explosion limits:	1,5 Vol.%
Upper explosion limits:	Not determined
Ignition temperature:	> 200°C (DIN 51794)
Vapour pressure at 20°C:	< 1 hPa
Density at 20°C:	1,055 – 1,075 g/cm <sup>3</sup> (DIN 51757)
Water solubility at 20°C:	Completely miscible
Solubility in other solvents:	Not determined
Partition coefficient:	Not applicable
Kin. Viscosity at 20°C:	15 – 17 mm <sup>2</sup> /s (FMVSS 116)
Vapour density:	Not determined
Evaporation rate:	Not determined
9.2 Other information:	The product is hygroscopic

### Section 10. Stability and reactivity.

10.1 Reactivity:	This product is stable under normal conditions. Hazardous reactions are unlikely.
10.2 Chemical stability:	Onset of decomposition at elevated temperatures (~ 360°C).
10.3 Possibility of hazardous reactions:	This product is stable under normal conditions. Hazardous reactions are unlikely.
10.4 Conditions to avoid:	Not determined
10.5 Incompatible materials:	Not determined
10.6 Hazardous decomposition products:	No special measures required when used in accordance with the instructions.

### Section 11. Toxicological information.

11.1 Information on toxicological effects:

Acute toxicity: Not determined

CAS-No.	Chemical name	Exposure route	Dose	Species	Source
111-46-6	2,2'-oxybisethanol; diethylene glycol	oral	ATE - 500 mg/kg		
		dermal	LD50 – 11890 mg/kg	Rabbit	
110-97-4	1,1'-Iminodipropan-2-ol, di-isopropanolamine				
		oral	LD50 – 4765 mg/kg	Rat	

Irritation and corrosivity: Not determined

Sensitising effects: Not determined

Carcinogenic/mutagenic/toxic effects for reproduction: Not determined

Additional information on tests: The classification was carried out according to the calculation method of the Preparations Directive (1999/45/EC).

### Section 12. Ecological information.

12.1 Toxicity:

CAS-No.	Chemical name	Aquatic toxicity	Dose	[h]	[d]	Species	Source
111-46-6	2,2'-oxybisethanol; diethylene glycol	Acute fish toxicity	LC 50 – > 32000 mg/l	96 h		Gambusia affinis	
		Acute fish toxicity	LC 50 – > 1000 – 2200 mg/l	96 h		Leuciscus idus	



12.2 Persistence and degradability: Product is biodegradable (90% / 15 d).

12.3 Bioaccumulative potential:

Partition coefficient n-octanol/water:

CAS-No.	Chemical name	Log Pow
111-46-6	2,2'-oxybisethanol; diethylene glycol	-1,98 (25°C)
110-97-4	1,1'-Iminodipropan-2-ol, di-isopropanolamine	-0,82

Further information: The classification was carried out according to the calculation method of the Preparations Directive (1999/45/EC).

### Section 13. Disposal considerations.

13.1 Waste treatment methods:

Advice on disposal: Send to a hazardous waste incinerator facility under observation of official regulations.

Waste disposal number of waste from residues/unused products: 16 01 13 - 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.  
Classified as hazardous waste.

Waste disposal number of used products: 16 01 13 - 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.  
Classified as hazardous waste.

### Section 14. Transport information.

Land transport (ADR/RID):

Other applicable information (land transport): No dangerous good in sense of this transport regulation.

Inland waterways transport (ADN):

Other applicable information (inland waterways transport): No dangerous good in sense of this transport regulation.

Marine transport (IMDG):

Other applicable information (marine transport): No dangerous good in sense of this transport regulation.

Air transport (ICAO):

Other applicable information (air transport): 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:

National regulatory information:

Water hazardous class (WGK) (D): 1 – slightly hazardous for water

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

### 16. Other information.

The information contained in this safety data sheet is based on our current information level. It does not give assurance for certain product properties and does not establish a contractual relationship.

Full text of H- and EUH-statements (number and full text):

H302 Harmful if swallowed  
H318 Causes serious eye damage  
H319 Causes serious eye irritation

Changes in section: 1 - 16.