



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

1.1 Product identifier: Agip Brake Fluid DOT 4 Plus

1.2 Relevant identified uses of the substance or mixture and uses advised against:  
 Use of the substance/mixture: Hydraulic 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: This mixture is not classified as hazardous according to Directive 1999/45/EC.

GHS classification: 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:

EC-No.	Chemical name	Quantity
CAS-No.	Classification	
Index-No.	GHS classification	
REACH-No.		
203-872-2	2,2'-oxybisethanol, diethylene glycol	< 10%
111-46-6	Xn – Harmful, R22	
603-140-00-6	Acute Tox. 4; H302	
203-820-9	1,1'-iminodipropan-2-ol, di-isopropanolamine	< 10%
110-97-4	Xi – Irritant, R36	
603-083-00-7	Eye Irrit. 2; H319	

Full text for R and H 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: 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.  
 Unsuitable extinguishing media: High power water jet.
- 5.2 Special hazards arising from the substance or mixture: Special exposure hazards arising from the substance itself, combustion products, resulting gases: CO, NOx.
- 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 material according to 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'-Oxybisethanol	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 at the end of 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 at 20°C: 7 – 8,5 (FMVSS 116)



Changes in the physical state:

Initial boiling point and range:	> 260°C (FMVSS 116)
Setting point:	< -70°C (DIN 51583)
Flashpoint:	> 130°C (DIN EN ISO 2719)
Lower explosion limit:	1,5 Vol.%
Upper explosion limit:	Not determined
Ignition temperature:	> 200°C (DIN 51794)
Vapour pressure at 20°C:	< 1 hPa
Density at 20°C:	1,065 – 1,085 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:	This product is stable under normal conditions. Hazardous reactions are unlikely.
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 routes	Method	Dose	Species	Source
111-46-6	2,2'-oxybisethanol; diethylene glycol				
	Oral	ATE	500 mg/kg		
	Dermal	LD50	11890 mg/kg	Hamster	
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	Method	Dose	[h] / [d]	Species	Source
111-46-6	2,2'-oxybisethanol; diethylene glycol					
	Acute fish toxicity	LC 50	> 32.000 mg/l	96 h	Gambusia affinis	
110-97-4	1,1'-iminodipropan-2-ol; di-isopropanolamine					
	Acute fish toxicity	LC50	> 1000 – 2200 mg/l	96 h	Leuciscus idus	

12.2 Persistence and degradability: Product is biodegradable (96% / 4 d).

12.3 Bioaccumulative potential: Not determined.

Partition coefficient n-octanol/water:

CAS-No.	Chemical name	LogPow
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 vehicles 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 vehicles 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



### 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. This information relates only to the specific material and may not be valid if the material is used in combination with any other material or in any process.

Full text of R phrases referred to under Sections 2 and 3:

R22 Harmful if swallowed

R36 Irritating to eyes

Full text of H statements referred to under Sections 2 and 3:

H302 Harmful if swallowed

H319 Causes serious eye irritation

Changes in section: 1 - 16.