

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 03.03.2016



Version number 4

Revision: 03.03.2016

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

- **1.1 Product identifier**
- **Trade name:** Brake Fluid DOT 4
- **Article number:** ST-A.25.01
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
- **Sector of Use**
 - SU21 Consumer uses: Private households / general public / consumers
 - SU22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
 - SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites
- **Process category**
 - PROC1 Use in closed process, no likelihood of exposure
 - PROC2 Use in closed, continuous process with occasional controlled exposure
 - PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities
 - PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
 - PROC20 Heat and pressure transfer fluids in dispersive, professional use but closed systems
- **Environmental release category**
 - ERC9a Wide dispersive indoor use of substances in closed systems
 - ERC9b Wide dispersive outdoor use of substances in closed systems
- **Application of the substance / the mixture** hydraulic fluid for brakes and clutches
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
 - Maxol Lubricants
 - Unit D,
 - Airport Business Campus,
 - Santry, Dublin 9
- Further information obtainable from: Product safety department - +353 (0) 1 806 0300.
- 1.4 Emergency telephone number: +353 (0) 1 806 0300 (9 AM to 4 PM, Monday to Friday)

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**
-  GHS07
- Eye Irrit. 2 H319 Causes serious eye irritation.
- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
- The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms**
-  GHS07
- **Signal word** Warning

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- **Hazard-determining components of labelling:**
2-[2-(2-butoxyethoxy)ethoxy]ethanol
- **Hazard statements**
H319 Causes serious eye irritation.
- **Precautionary statements**
P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P280 Wear protective gloves / eye protection.
P264 Wash thoroughly after handling.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 If eye irritation persists: Get medical advice/attention.
- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

- **3.2 Mixtures**
- **Description:** Mixture of substances listed below with nonhazardous additions.

- **Dangerous components:**

CAS: 143-22-6 EINECS: 205-592-6 Reg.nr.: 01-2119475107-38	2-[2-(2-butoxyethoxy)ethoxy]ethanol ☠ Eye Dam. 1, H318	25-50%
CAS: 111-46-6 EINECS: 203-872-2 Reg.nr.: 01-2119457857-21	2,2'-oxybisethanol ☠ STOT RE 2, H373; ⚠ Acute Tox. 4, H302	2.5-10%
CAS: 112-34-5 EINECS: 203-961-6 Reg.nr.: 01-2119475104-44	2-(2-butoxyethoxy)ethanol ⚠ Eye Irrit. 2, H319	2.5-10%
CAS: 111-77-3 EINECS: 203-906-6 Reg.nr.: 01-2119475100-52	2-(2-methoxyethoxy)ethanol ☠ Repr. 2, H361d	2.5-10%

- **Additional information:** For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.
- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** Rinse out mouth and then drink plenty of water.
- **4.2 Most important symptoms and effects, both acute and delayed**
No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**
If swallowed or in case of vomiting, danger of entering the lungs.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, dry chemical, or foam. Water can be used to cool and protect exposed material.

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- **5.2 Special hazards arising from the substance or mixture**
Formation of toxic gases is possible during heating or in case of fire.
- **5.3 Advice for firefighters**
- **Protective equipment:**
Wear self-contained respiratory protective device.
Wear fully protective suit.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Wear protective clothing.
- **6.2 Environmental precautions:**
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- **6.4 Reference to other sections**
No dangerous substances are released.
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling** No special precautions are necessary if used correctly.
- **Information about fire - and explosion protection:** Protect against electrostatic charges.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store only in the original receptacle.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep container tightly sealed.
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **8.1 Control parameters**

· Ingredients with limit values that require monitoring at the workplace:	
111-46-6 2,2'-oxybisethanol	
WEL	Long-term value: 101 mg/m ³ , 23 ppm
112-34-5 2-(2-butoxyethoxy)ethanol	
WEL	Short-term value: 101.2 mg/m ³ , 15 ppm Long-term value: 67.5 mg/m ³ , 10 ppm
111-77-3 2-(2-methoxyethoxy)ethanol	
WEL	Long-term value: 50.1 mg/m ³ , 10 ppm Sk

- **Additional information:** The lists valid during the making were used as basis.
- **8.2 Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Avoid contact with the eyes.

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- Avoid contact with the eyes and skin.
- **Respiratory protection:** Not required.
- **Protection of hands:**



Wear gloves for the protection against chemicals according to EN 374.

- **Material of gloves**

Recommended thickness of the material: ≥ 0.35 mm

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- **Penetration time of glove material**

For continuous contact we recommend gloves with breakthrough time of more than 240 minutes with preference for > 480 minutes where suitable gloves can be identified. For short-term/splash protection we recommend the same, but recognise that suitable gloves offering this level of protection may not be available and in this case a lower breakthrough time may be acceptable so long as appropriate maintenance and replacement regimes are followed.

Glove thickness is not a good predictor of glove resistance to a chemical as it is dependent on the exact composition of the glove material.

The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye protection:**



Tightly sealed goggles (EN 166)

- **Body protection:** Protective work clothing

SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

Form:	Liquid
Colour:	Colourless
Odour:	Uncharacteristic.

- **pH-value:** 7 - 11.5

- **Change in condition**

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	> 260 °C

- **Drip point:**

Pour point -50 °C (ASTM D97)

- **Flash point:**

> 100 °C

- **Flammability (solid, gaseous):**

Not applicable.

- **Self-igniting:**

Product is not selfigniting.

- **Danger of explosion:**

Product does not present an explosion hazard.

- **Explosion limits:**

Lower:	Not determined.
Upper:	Not determined.

- **Density at 20 °C:**

1.06 g/cm³

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- | | |
|--|--|
| · Solubility in / Miscibility with water: | Fully miscible. |
| · Partition coefficient (n-octanol/water): <2 | |
| · Viscosity at 20 °C: | 5 - 10 mm ² /s |
| · 9.2 Other information | No further relevant information available. |

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.3 Possibility of hazardous reactions** Reacts with strong oxidising agents.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:**
Poisonous gases/vapours
Carbon monoxide and carbon dioxide

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity** Based on available data, the classification criteria are not met.

· LD/LC50 values relevant for classification:

Oral	LD50	>2000 mg/kg (rat)
Dermal	LD50	>2000 mg/kg (rat)
Inhalative	LC50 (4 h)	>5 mg/l (rat)

111-77-3 2-(2-methoxyethoxy)ethanol

Oral	LD50	5500 mg/kg (rat)
Dermal	LD50	6540 mg/kg (rabbit)

- **Primary irritant effect:**
- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation**
Causes serious eye irritation.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** 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.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **Other information:** The product is not easily biodegradable.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.

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- **Additional ecological information:**
- **General notes:**
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

SECTION 14: Transport information

- | | |
|---|-----------------|
| <ul style="list-style-type: none"> · 14.1 UN-Number · ADR,ADN, ADN, IMDG, IATA | Void |
| <ul style="list-style-type: none"> · 14.2 UN proper shipping name · ADR,ADN, ADN, IMDG, IATA | Void |
| <ul style="list-style-type: none"> · 14.3 Transport hazard class(es) · ADR,ADN, ADN, IMDG, IATA · Class | Void |
| <ul style="list-style-type: none"> · 14.4 Packing group · ADR,ADN, IMDG, IATA | Void |
| <ul style="list-style-type: none"> · 14.5 Environmental hazards: · Marine pollutant: | No |
| <ul style="list-style-type: none"> · 14.6 Special precautions for user | Not applicable. |
| <ul style="list-style-type: none"> · 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code | Not applicable. |
| <ul style="list-style-type: none"> · UN "Model Regulation": | Void |

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **National regulations:**
- **Waterhazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.

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- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant phrases**

- H302 Harmful if swallowed.
- H318 Causes serious eye damage.
- H319 Causes serious eye irritation.
- H361d Suspected of damaging the unborn child.
- H373 May cause damage to organs through prolonged or repeated exposure.

- **Department issuing MSDS:** Product safety department.

- **Contact:** Product safety department

- **Abbreviations and acronyms:**

- RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
- ICAO: International Civil Aviation Organisation
- ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
- IMDG: International Maritime Code for Dangerous Goods
- IATA: International Air Transport Association
- GHS: Globally Harmonised System of Classification and Labelling of Chemicals
- EINECS: European Inventory of Existing Commercial Chemical Substances
- ELINCS: European List of Notified Chemical Substances
- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative
- Acute Tox. 4: Acute toxicity, Hazard Category 4
- Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1
- Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2
- Repr. 2: Reproductive toxicity, Hazard Category 2
- STOT RE 2: Specific target organ toxicity - Repeated exposure, Hazard Category 2

- **Sources** EC/453-2010

GB