



Brake Fluid DOT 5.1

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EC) No. 453/2010

Date of issue:3/16/2015 Revision date:8/31/2015Supersedes:3/16/2015

Version: 3.1

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

1.1. Product identifier

Product form : Mixture
Article number : 53600
Product code : 536

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

1.2.1. Relevant identified uses

Function or use category : brake fluids

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

BARDAHL NL - OCD NEDERLAND BV
Maxwellstraat 41
3316 GP Dordrecht - Nederland
T 0031 78 651 2322 - F 0031 78 617 4848
rjonker@bardahl.nl - www.bardahl.nl

1.4. Emergency telephone number

Emergency number : +31 (0) 6 2908 2010
During office hours: 8.30 t/m 17:00 h

| Country | Organization/Company | Address | Emergency number | Comment |
|---------|---|---------------------------------|------------------|---------|
| | Guy's & St Thomas' Poisons Unit Medical Toxicology Unit, Guy's & St Thomas' Hospital Trust | Avonley Road SE14 5ER London | 0870 243 2241 | |

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Not classified

2.2. Label elements

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

Security closing plug for children. : No
Tactile warning : No

2.3. Other hazards

Adverse physicochemical, human health and environmental effects : The product has to be labeled due to the calculation procedure of the General Classification guideline for preparations of the EU", DIR.".

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

| Name | Product identifier | % | Classification according to Regulation (EC) No. 1272/2008 [CLP] |
|--|---|--------|---|
| 2-[2-(2-butoxyethoxy)ethoxy]ethanol, TEGBE, triethylene glycol monobutyl ether, butoxytriethylene glycol | (CAS No) 143-22-6 (EC no) 205-592-6 (EC index no) 603-183-00-0 (REACH-no) 01-2119475107-38 | 3 - 10 | Eye Dam. 1, H318 |

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| | | | |
|--|---|---------|--------------------|
| 2-(2-methoxyethoxy)ethanol, diethylene glycol monomethyl ether | (CAS No) 111-77-3 (EC no) 203-906-6 (EC index no) 603-107-00-6 (REACH-no) 01-2119475100-52 | 1 - 2.5 | Repr. 2, H361d |
| 1,1'-iminodipropan-2-ol, di-isopropanolamine | (CAS No) 110-97-4 (EC no) 203-820-9 (EC index no) 603-083-00-7 (REACH-no) 01-2119475444-34 | 1 - 2.5 | Eye Irrit. 2, H319 |

Specific concentration limits:

| Name | Product identifier | Specific concentration limits |
|--|---|---|
| 2-[2-(2-butoxyethoxy)ethoxy]ethanol, TEGBE, triethylene glycol monobutyl ether, butoxytriethylene glycol | (CAS No) 143-22-6 (EC no) 205-592-6 (EC index no) 603-183-00-0 (REACH-no) 01-2119475107-38 | (20 =< C < 30) Eye Irrit. 2, H319 (C >= 30) Eye Dam. 1, H318 |

Full text of H-phrases: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures general : Remove/Take off immediately all contaminated clothing. Seek medical attention if ill effect develops.
- First-aid measures after inhalation : Assure fresh air breathing. When unconsciousness transport in a recovery position. Seek medical advice.
- First-aid measures after skin contact : Wash skin thoroughly with mild soap and water. Get immediate medical advice/attention.
- First-aid measures after eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart.
- First-aid measures after ingestion : Obtain emergency medical attention.

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

- Symptoms/injuries : Limited evidence of a carcinogenic effect.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media : Carbon dioxide. Powder. Alcohol resistant foam. Water haze.
- Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

- Fire hazard : High temperature may liberate toxic gases.

5.3. Advice for firefighters

- Firefighting instructions : Use water spray or fog for cooling exposed containers.
- Protection during firefighting : Use self-contained breathing apparatus. Wear suitable protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Wear proper protective equipment. See Heading 8.

6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Prevent entry to sewers and public waters.

6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : Soak up with absorbent material (for example sand, sawdust, neutral absorbent granule, silica gel).
- Other information : Stop leak without risks if possible. May be dangerously slippery if spilled.

6.4. Reference to other sections

See Headings 7 and 8. See Heading 13.

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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Ensure adequate ventilation. Take precautionary measures against static discharges. Do not expose pregnant or breastfeeding women.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in dry, cool, well-ventilated area. Keep container tightly closed.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

2-(2-methoxyethoxy)ethanol, diethylene glycol monomethyl ether (111-77-3)

| | | |
|-------------|---|----------------------|
| Netherlands | Grenswaarde TGG 8H (mg/m ³) | 45 mg/m ³ |
| Netherlands | Grenswaarde TGG 8H (ppm) | 9 ppm |

8.2. Exposure controls

Personal protective equipment : Protective goggles. Dust production: dust mask with filter type P2.

Materials for protective clothing : Wear suitable protective clothing. EN 340

Hand protection : Wear suitable gloves resistant to chemical penetration. Selection of the glove material on consideration of the penetration times, permeability and degradation. Wear suitable gloves tested to EN374. neoprene/butyl rubber. Recommended thickness of the material: ≥ 0.7 mm. Gloves material: Nitrile. Recommended thickness of the material: ≥ 0.45 mm. Penetration time of glove material: 30 min (Nitril). Refer to manufacturer's information.

Eye protection : Use eye protection to EN 166, designed to protect against liquid splashes

Respiratory protection : In case of inadequate ventilation wear respiratory protection. Filtering Half-face mask (DIN EN 149). Extra personal protection: A/P2 filter respirator for organic vapor and harmful dust



Other information : The usual precautionary measures are to be adhered to when handling chemicals. Keep away from food, drink and animal feeding stuffs. Wash hands and other exposed areas with mild soap and water before eat, drink or smoke and when leaving work. Remove contaminated clothing immediately. Do not eat, drink or smoke when using this product. Pregnant women may avoid to breathe or to have skin contact with product.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid

Color : yellow.

Odor : characteristic.

Odor threshold : No data available

pH : 7 - 8.5 (20°C) FMVSS, S6, 4

Relative evaporation rate (butyl acetate=1) : No data available

Melting point : No data available

Freezing point : No data available

Boiling point : 265 °C (ASTDM D1120)

Flash point : 135.5 °C (DIN EN 22719; ISO 2719)

Auto-ignition temperature : > 200 °C (DIN EN 14522)

Decomposition temperature : No data available

Flammability (solid, gas) : No data available

Vapor pressure : 1 bar (20°C)

Relative vapor density at 20 °C : No data available

Relative density : No data available

Specific gravity / density : 1.06 g/cm³ (20°C)

Solubility : Soluble in water.
Organic solvent:1.9%

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| | |
|----------------------|-----------------------------|
| Log Pow | : No data available |
| Viscosity, kinematic | : No data available |
| Viscosity, dynamic | : No data available |
| Explosive properties | : Product is not explosive. |
| Oxidizing properties | : No data available |
| Explosion limits | : No data available |

9.2. Other information

Additional information : Material is hygroscopic

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

No decomposition if used according to specifications.

10.3. Possibility of hazardous reactions

No dangerous reactions known.

10.4. Conditions to avoid

Moisture.

10.5. Incompatible materials

Oxidizer.

10.6. Hazardous decomposition products

High temperature may liberate dangerous gases.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

2-(2-methoxyethoxy)ethanol, diethylene glycol monomethyl ether (111-77-3)

| | |
|----------------------------|-------------------------|
| LD50 oral rat | > 5000 mg/kg (OECD 401) |
| LD50 dermal rabbit | > 6500 mg/kg (OECD 402) |
| LC50 inhalation rat (mg/l) | 1.2 mg/l/4h (OECD 403) |

| | |
|--|--|
| Skin corrosion/irritation | : Not classified pH: 7 - 8.5 (20°C) FMVSS, S6, 4 |
| Serious eye damage/irritation | : Irritating to eyes pH: 7 - 8.5 (20°C) FMVSS, S6, 4 |
| Respiratory or skin sensitization | : No sensitization responses were observed |
| Germ cell mutagenicity | : Not classified |
| Carcinogenicity | : The product is not considered carcinogenic, mutagenic or repro-toxic. May impair fertility and cause harm to the unborn child. |
| Reproductive toxicity | : Not classified |
| Specific target organ toxicity (single exposure) | : Not classified |
| Specific target organ toxicity (repeated exposure) | : Not classified |

2-(2-methoxyethoxy)ethanol, diethylene glycol monomethyl ether (111-77-3)

| | |
|-------------------------------------|--------------------------|
| NOAEL (oral, rat, 90 days) | 900 mg/kg bodyweight/day |
| NOAEL (dermal, rat/rabbit, 90 days) | 40 mg/kg bodyweight/day |
| Aspiration hazard | : Not classified |

SECTION 12: Ecological information

12.1. Toxicity

53600

| | |
|--------------------------------|-----------------------------|
| LC50 other aquatic organisms 1 | > 100 mg/l (Leuciscus Idus) |
|--------------------------------|-----------------------------|

2-(2-methoxyethoxy)ethanol, diethylene glycol monomethyl ether (111-77-3)

| | |
|--------------------------------|--|
| LC50 fish 1 | 5741 mg/l (Pimephales promelas) (US-EPA) |
| EC50 Daphnia 1 | 1192 mg/l (EPA-660/3-75-009 (1975)) |
| EC50 other aquatic organisms 1 | > 1000 mg/l (OECD 209) |

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2-(2-methoxyethoxy)ethanol, diethylene glycol monomethyl ether (111-77-3)

| | |
|--------------------------------|--|
| EC50 other aquatic organisms 2 | > 1000 mg/l (Selenastrum Capricornutum) (OECD 201) |
|--------------------------------|--|

12.2. Persistence and degradability

53600

| | |
|----------------|--------------------------------------|
| Biodegradation | 70 % (OESO 302B; 88/302/EEG, Part C) |
|----------------|--------------------------------------|

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

53600

| | |
|----------------|--|
| Ecology - soil | Prevent entry to sewers and public waters. |
|----------------|--|

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.

SECTION 14: Transport information

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

14.1. UN number

Not regulated for transport

14.2. UN proper shipping name

| | |
|-----------------------------|------------------|
| Proper Shipping Name (ADR) | : Not applicable |
| Proper Shipping Name (IMDG) | : Not applicable |
| Proper Shipping Name (IATA) | : Not applicable |
| Proper Shipping Name (ADN) | : Not applicable |
| Proper Shipping Name (RID) | : Not applicable |

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : Not applicable

IMDG

Transport hazard class(es) (IMDG) : Not applicable

IATA

Transport hazard class(es) (IATA) : Not applicable

ADN

Transport hazard class(es) (ADN) : Not applicable

RID

Transport hazard class(es) (RID) : Not applicable

14.4. Packing group

| | |
|----------------------|------------------|
| Packing group (ADR) | : Not applicable |
| Packing group (IMDG) | : Not applicable |
| Packing group (IATA) | : Not applicable |
| Packing group (ADN) | : Not applicable |
| Packing group (RID) | : Not applicable |

14.5. Environmental hazards

| | |
|-------------------------------|--|
| Dangerous for the environment | : No |
| Marine pollutant | : No |
| Other information | : No supplementary information available |

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14.6. Special precautions for user

- Overland transport

No data available

- Transport by sea

No data available

- Air transport

No data available

- Inland waterway transport

No data available

- Rail transport

No data available

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains no REACH candidate substance

Contains no REACH Annex XIV substances.

15.1.2. National regulations

Germany

VwVwS Annex reference : Water hazard class (WGK) 1, slightly hazardous to water (Classification according to VwVwS, Annex 4)

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

Netherlands

Waterbezuwaarlijkheid : 10 - Slightly harmful to aquatic organisms; may cause long-term adverse effects in the aquatic environment.

Remediation efforts : A - Basically not discharge; If so, then applying best available techniques.

SZW-lijst van kankerverwekkende stoffen : None of the components are listed

SZW-lijst van mutagene stoffen : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : 2-(2-methoxyethoxy)ethanol, diethylene glycol monomethyl ether is listed

Denmark

Classification remarks : Emergency management guidelines for the storage of flammable liquids must be followed

15.2. Chemical safety assessment

No

SECTION 16: Other information

Indication of changes:

| | | | |
|------|----------------------------|----------|--|
| 15.2 | Chemical safety assessment | Modified | |
|------|----------------------------|----------|--|

Abbreviations and acronyms:

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Abbreviations and acronyms:

RID: Regulations Concerning the International Transport of Dangerous Goods by Rail
ICAO: International Civil Aviation Organization
ADR: 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 Harmonized 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)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent

Full text of H- and EUH-phrases:

| | |
|--------------|--|
| Eye Dam. 1 | Serious eye damage/eye irritation Category 1 |
| Eye Irrit. 2 | Serious eye damage/eye irritation Category 2 |
| Repr. 2 | Reproductive toxicity Category 2 |
| H318 | Causes serious eye damage |
| H319 | Causes serious eye irritation |
| H361d | Suspected of damaging the unborn child |

SDS EU (REACH Annex II)

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