



Brake Fluid DOT 5.1

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878
Issue date: 16/03/2015 Revision date: 05/10/2018 Supersedes version of: 31/08/2015 Version: 3.2

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

1.1. Product identifier

Product form : Mixture
Name : Brake Fluid DOT 5.1
Product code : 536
Article number : 53600

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
mjkooijman@bardahl.nl - www.bardahl.nl

1.4. Emergency telephone number

Emergency number : +31 (0) 6 54924171
During office hours: 8.30 t/m 17:00 h

Country	Official advisory body	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	
United Kingdom	National Poisons Information Service (Birmingham Centre) City Hospital	Dudley Road B18 7QH	0344 892 0111	Only for healthcare professionals
United Kingdom	National Poisons Information Service (Belfast Centre) Royal Victoria Hospital	Grosvenor Road BT12 6BA	0344 892 0111	Only for healthcare professionals

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Not classified

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".

2.2. Label elements

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

No labelling applicable

2.3. Other hazards

Contains no PBT/vPvB substances $\geq 0.1\%$ assessed in accordance with REACH Annex XIII

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The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
2-[2-(2-butoxyethoxy)ethoxy]ethanol; TEGBE; triethylene glycol monobutylether; 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
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 STOT RE 2, H373
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 monobutylether; 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 (30 ≤ C ≤ 100) Eye Dam. 1, H318
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	(3 ≤ C ≤ 100) Repr. 1B, H360D

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

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Take off immediately all contaminated clothing. Seek medical attention if ill effect develops.
First-aid measures after inhalation	: Allow affected person to breathe fresh air. 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.

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First-aid measures after ingestion : Obtain emergency medical attention.

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

Symptoms/effects : 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 inert absorbent material (for example sand, sawdust, a universal binder, 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.

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

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

No additional information available

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

No additional information available

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

No additional information available

8.2.2. Personal protection equipment

Personal protective equipment:

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

Personal protective equipment symbol(s):



8.2.2.1. Eye and face protection

Eye protection:

Use eye protection according to EN 166, designed to protect against liquid splashes.

8.2.2.2. Skin protection

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.

Other skin protection

Materials for protective clothing:

Wear suitable protective clothing. EN 340

8.2.2.3. Respiratory protection

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 vapour and harmful dust

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Other information:

The usual precautionary measures are to be adhered to when handling chemicals. Keep away from food, drink and animal feedingstuffs. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking 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.

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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: Yellow.
Odour	: characteristic.
Odour threshold	: Not available
Melting point	: Not available
Freezing point	: Not available
Boiling point	: 265 °C (ASTDM D1120)
Flammability	: Not available
Explosive properties	: Product is not explosive.
Lower explosion limit	: Not available
Upper explosion limit	: Not available
Flash point	: 135.5 °C (DIN EN 22719; ISO 2719)
Auto-ignition temperature	: > 200 °C (DIN EN 14522)
Decomposition temperature	: Not available
pH	: 7 – 8.5 (20°C) FMVSS, S6, 4
Viscosity, kinematic	: Not available
Solubility	: Soluble in water. Organic solvent:1.9%
Partition coefficient n-octanol/water (Log Kow)	: Not available
Vapour pressure	: 1 bar (20°C)
Vapour pressure at 50°C	: Not available
Density	: 1.06 g/cm ³ (20°C)
Relative density	: Not available
Relative vapour density at 20°C	: Not available
Particle characteristics	: Not applicable

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

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

At high temperature may liberate dangerous gases.

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SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : 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	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 sensitisation : No sensitisation 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

STOT-single exposure : Not classified

STOT-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
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard : Not classified

11.2. Information on other hazards

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Hazardous to the aquatic environment, short-term (acute) : Not classified
Hazardous to the aquatic environment, long-term (chronic) : Not classified

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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 - Crustacea [1]	1192 mg/l (EPA-660/3-75-009 (1975))
EC50 - Other aquatic organisms [1]	> 1000 mg/l (OECD 209)
EC50 - Other aquatic organisms [2]	> 1000 mg/l (Selenastrum Capricornutum) (OECD 201)

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12.2. Persistence and degradability

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Biodegradation	70 % (OESO 302B; 88/302/EEG, Part C)
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12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

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Ecology - soil	Prevent entry to sewers and public waters.
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12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

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

SECTION 14: Transport information

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

ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
Not regulated for transport				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.2. UN proper shipping name				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.3. Transport hazard class(es)				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.4. Packing group				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.5. Environmental hazards				
Dangerous for the environment: No	Dangerous for the environment: No Marine pollutant: No	Dangerous for the environment: No	Dangerous for the environment: No	Dangerous for the environment: No
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. Maritime transport in bulk according to IMO instruments

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

REACH Annex XVII (Restriction List)

Contains no substance(s) listed on REACH Annex XVII (Restriction Conditions)

REACH Annex XIV (Authorisation List)

Contains no substance(s) listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Contains no substance(s) listed on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

Contains no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)

POP Regulation (Persistent Organic Pollutants)

Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

Ozone Regulation (1005/2009)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 1005/2009 on substances that deplete the ozone layer)

Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No

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SECTION 16: Other information

Indication of changes			
Section	Changed item	Change	Comments
15.2	Chemical safety assessment	Modified	

Abbreviations and acronyms:	
	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-statements:	
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H360D	May damage the unborn child.
H361d	Suspected of damaging the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
Repr. 1B	Reproductive toxicity, Category 1B
Repr. 2	Reproductive toxicity, Category 2
STOT RE 2	Specific target organ toxicity – Repeated exposure, Category 2

Safety Data Sheet (SDS), EU

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.