Brake Fluid DOT4 LV

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878
Issue date: 10/03/2015 Revision date: 01/03/2022 Supersedes version of: 05/10/2018 Version: 1.3

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

1.1. Product identifier

Product form : Mixture
Name : Brake Fluid DOT4 LV
UFI : JM60-J0KY-000W-MUUX
Product code : 537
Article number : 53700

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]

Reproductive toxicity, Category 2 H361
Full text of H- and EUH-statements: see section 16

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]

Hazard pictograms (CLP) :

GHS08

Signal word (CLP) : Warning

Contains : tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate

Hazard statements (CLP) : H361 - Suspected of damaging fertility or the unborn child.

Precautionary statements (CLP) : P280 - Wear eye protection/face protection, protective gloves, protective clothing.
P308+P313 - IF exposed or concerned: Get medical advice/attention.
P101 - If medical advice is needed, have product container or label at hand.
P102 - Keep out of reach of children.
P103 - Read label before use.
P501 - Dispose of contents and container to in accordance with local, regional, national and/or international regulation.

EUH-statements : EUH208 - Contains Dihydro-3-(tetrapropenyl)-2,5-furandione(26544-38-7). May produce an allergic reaction.

2.3. Other hazards

Contains no PBT/vPvB substances ≥ 0.1% assessed in accordance with REACH Annex XIII

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]
tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate	CAS-No.: 30989-05-0 EC-No.: 250-418-4 REACH-no: 01-2119462824-33	< 60	Repr. 2, H361
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	≤ 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	< 3	Repr. 2, H361d STOT RE 2, H373
Dihydro-3-(tetrapropenyl)-2,5-furandione	CAS-No.: 26544-38-7 EC-No.: 247-781-6 REACH-no: 01-2119979080-37	< 0.1	Eye Irrit. 2, H319 Skin Sens. 1A, H317 Aquatic Chronic 4, H413

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 : Do not leave victim alone. Remove person to fresh air and keep comfortable for breathing. When unconsciousness transport in a recovery position. Never give anything by mouth to an unconscious person. Remove contaminated clothing. In any case of doubt or if symptoms can be observed, get medical attention.

First-aid measures after inhalation : Allow affected person to breathe fresh air. If breathing is irregular or stopped, administer artificial respiration. Call a POISON CENTER/doctor if you feel unwell.

First-aid measures after skin contact : Wash skin thoroughly with mild soap and water. If skin irritation or rash occurs: Get 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. If eye irritation persists: Get medical advice/attention.

First-aid measures after ingestion : Rinse mouth out with water. Drink plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a POISON CENTER/doctor if you feel unwell.

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

No additional information available

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

Treat symptomatically. For specialist advice, the doctor should contact the Poison Center.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Carbon dioxide. Powder. Foam. Water haze.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : Carbon dioxide. Carbon monoxide. Boron Oxides (BOx).

5.3. Advice for firefighters

Precautionary measures fire : Do not breathe gas/vapour/aerosol. Do not breathe smoke.

Firefighting instructions : Prevent fire fighting water from entering the environment.

Protection during firefighting : Use self-contained breathing apparatus. Standard EN 469 - Protective clothing for firefighters. Standard - EN 659: Protective gloves for firefighters.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Evacuate area. Ventilate area. Remove ignition sources. No smoking. May be dangerously slippery if spilled.

6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

Protective equipment : Use self-contained breathing apparatus.

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). Use suitable disposal containers.

Other information : Stop leak without risks if possible. May be dangerously slippery if spilled. Ventilate area.

6.4. Reference to other sections

For disposal of solid materials or residues refer to section 13 : "Disposal considerations". For further information refer to section 8: "Exposure controls/personal protection". For further information, refer to section 10 : "Stability and Reactivity".

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ventilate area. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Hygiene measures : Wash hands before breaks and after work. Do not eat, drink or smoke when using this product. Take off immediately all contaminated clothing. Keep away from food, drink and animal feedingstuffs.

7.2. Conditions for safe storage, including any incompatibilities

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

Incompatible products : Bases. acids. Oxidizing agent.

Incompatible materials : Sources of ignition. Heat sources. Direct sunlight.

7.3. Specific end use(s)

Brake fluids.

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. Gloves.

Personal protective equipment symbol(s):

8.2.2.1. Eye and face protection

Eye protection			
Type	**Field of application**	**Characteristics**	**Standard**
Safety goggles		With side shields	EN 166

8.2.2.2. Skin protection

Skin and body protection	
Type	**Standard**
Wear suitable protective clothing	EN 340,

Hand protection:
Refer to manufacturer's information. Test the gloves before use.

Hand protection					
Type	**Material**	**Permeation**	**Thickness (mm)**	**Penetration**	**Standard**
Safety gloves	Nitrile rubber (NBR)	6 (> 480 minutes)	0.3		EN ISO 374

8.2.2.3. Respiratory protection

Respiratory protection			
Device	**Filter type**	**Condition**	**Standard**
In case of insufficient ventilation, wear suitable respiratory equipment	Type A - High-boiling (>65 °C) organic compounds		EN 136

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Other information:
Ventilate area.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Colour	:	amber.
Odour	:	characteristic.

Odour threshold	:	Not available
Melting point	:	< 50 °C 1 atm
Freezing point	:	Not available
Boiling point	:	> 260 °C
Flammability	:	Not available
Explosive properties	:	Product is not explosive.
Lower explosion limit	:	Not available
Upper explosion limit	:	Not available
Flash point	:	Not available
Auto-ignition temperature	:	Not available
Decomposition temperature	:	Not available
pH	:	7 – 10.5
Viscosity, kinematic	:	15 mm²/s 20°C
Solubility	:	Soluble in water.
Partition coefficient n-octanol/water (Log Kow)	:	Not available
Vapour pressure	:	Not available
Vapour pressure at 50°C	:	Not available
Density	:	1020 – 1090 kg/m³ (20°C)
Relative density	:	Not available
Relative vapour density at 20°C	:	1.02 – 1.09
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

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

None under normal conditions.

10.2. Chemical stability

10.2. Conditions to avoid.

10.3. Possibility of hazardous reactions

No dangerous reactions known.

10.4. Conditions to avoid

Heat. Sparks. Open flame. Sources of ignition. hot surfaces.

10.5. Incompatible materials

Acids. Bases. Oxidizing agent.

10.6. Hazardous decomposition products

SECTION 5.

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

tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate (30989-05-0)	
LD50 oral rat	> 5000 mg/kg Source: IUCLID
LD50 dermal rat	> 2000 mg/kg Source: IUCLID

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 (OECDD 403)

Dihydro-3-(tetrapropenyl)-2,5-furandione (26544-38-7)	
LD50 oral rat	2550 mg/kg Source: NLM; ChemIDplus
LD50 dermal rabbit	6220 mg/kg Source: NLM; ChemIDplus

Skin corrosion/irritation : Not classified
pH: 7 – 10.5

Serious eye damage/irritation : Not classified
pH: 7 – 10.5

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Suspected of damaging fertility or the unborn child.

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

Brake Fluid DOT4 LV	
Viscosity, kinematic	15 mm²/s 20°C

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

Brake Fluid DOT4 LV	
LC50 - Other aquatic organisms [1]	> 100 mg/l (Leuciscus Idus)

tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate (30989-05-0)	
LC50 - Fish [1]	590 mg/l Source: IUCLID
EC50 - Crustacea [1]	> 1000 mg/l Source: ECHA Chem
EC50 96h - Algae [1]	430 mg/l Source: IUCLID

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)

12.2. Persistence and degradability

Brake Fluid DOT4 LV	
Biodegradation	70 % (OESO 302B; 88/302/EEG, Part C)

12.3. Bioaccumulative potential

tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate (30989-05-0)	
Partition coefficient n-octanol/water (Log Pow)	-0.62 Source: ECHA Chem

12.4. Mobility in soil

Brake Fluid DOT4 LV	
Ecology - soil	Prevent entry to sewers and public waters.

tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate (30989-05-0)	
Mobility in soil	0.007477 Source: EPISUITE

Dihydro-3-(tetrapropenyl)-2,5-furandione (26544-38-7)	
Mobility in soil	10280 Source: EPISUITE v4.1

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

Sewage disposal recommendations : Do not discharge into drains or the environment.
Product/Packaging disposal recommendations : Dispose of contents/container ...
Additional information : Recycle after cleaning.

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

ADR	IMDG	IATA	ADN	RID
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				

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)

EU restriction list (REACH Annex XVII)	
Reference code	**Applicable on**
3.	2-[2-(2-butoxyethoxy)ethoxy]ethanol; TEGBE; triethylene glycol monobutylether; butoxytriethylene glycol
28.	Brake Fluid DOT4 LV
29.	Brake Fluid DOT4 LV
3(b)	2-[2-(2-butoxyethoxy)ethoxy]ethanol; TEGBE; triethylene glycol monobutylether; butoxytriethylene glycol
30.	Brake Fluid DOT4 LV
54.	2-(2-methoxyethoxy)ethanol; diethylene glycol monomethyl ether

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 chemical safety assessment has been carried out

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:	
Aquatic Chronic 4	Hazardous to the aquatic environment – Chronic Hazard, Category 4
EUH208	Contains Dihydro-3-(tetrapropenyl)-2,5-furandione(26544-38-7). May produce an allergic reaction.
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.

Full text of H- and EUH-statements:	
H319	Causes serious eye irritation.
H360D	May damage the unborn child.
H361	Suspected of damaging fertility or the unborn child.
H361d	Suspected of damaging the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H413	May cause long lasting harmful effects to aquatic life.
Repr. 1B	Reproductive toxicity, Category 1B
Repr. 2	Reproductive toxicity, Category 2
Skin Sens. 1A	Skin sensitisation, category 1A
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.