Brake Fluid Low Viscosity DOT 4+ LV

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

Issue date: 8-9-2015 Revision date: 8-5-2021 Supersedes: 20-10-2020 version: 7.4

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

1.1. Product identifier

Product name : Brake Fluid Low Viscosity DOT 4+ LV

UFI : UDYR-MMYX-VU1H-C4H5

Product code : 20000LV

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

1.2.1. Relevant identified uses

Main use category : Professional use

Use of the substance/mixture : Automotive care products

Function or use category : Hydraulic fluids and additives

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

MPM International Oil Company
Cyclotronweg 1
2629 HN Delft Delft - Nederland
T +31 (0)15 2514030
support@mpmoil.nl - www.mpmoil.com

1.4. Emergency telephone number

Emergency number : +31 (0)15 2514030 (08.00 - 17.00 GMT+1)

Country	Official advisory body	Address	Emergency number	Comment
Ireland	National Poisons Information Centre Beaumont Hospital	PO Box 1297 Beaumont Road 9 Dublin	+353 1 809 2566 (Healthcare professionals-24/7) +353 1 809 2166 (public, 8am - 10pm, 7/7)	
United Kingdom	Guy's & St Thomas' Poisons Unit Medical Toxicology Unit, Guy's & St Thomas' Hospital Trust	Avonley Road SE14 5ER London	+44 20 7188 7188	

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 H361d

Full text of H-statements: see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

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

Hazard pictograms (CLP) :

GHS08

CLP Signal word : Warning

Hazardous ingredients : Methyl Triglycol Borate

Hazard statements (CLP) : H361d - Suspected of damaging the unborn child.

Precautionary statements (CLP) : P280 - Wear protective gloves.
P301+P310 - IF SWALLOWED: Immediately call a doctor, a POISON CENTER.
P337+P313 - If eye irritation persists: Get medical advice/attention.

2.3. Other hazards

No additional information available

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 (EC Index-No.) 250-418-4 (REACH-no) 2119462824-33	≥ 30 – ≤ 90	Repr. 2, H361d
2-[2-(2-butoxyethoxy)ethoxy] ethanol	(CAS-No.) 143-22-6 (EC-No.) 205-592-6 (EC Index-No.) 603-183-00-0 (REACH-no) 01-2119475107-38	≥ 1 – ≤ 9,9	Eye Dam. 1, H318
Poly(oxy-1,2-ethanediyl), .alpha.-butyl-.omega.-hydroxy	(CAS-No.) 9004-77-7 (EC-No.) 500-012-0 (EC Index-No.) 500-012-0 (REACH-no) 2119475115-41	≥ 0 – ≤ 5	Eye Irrit. 2, H319
2-(2-Methoxyethoxy)ethanol	(CAS-No.) 111-77-3 (EC-No.) 203-906-6 (EC Index-No.) 603-107-00-6 (REACH-no) 01-2119475100-52	≥ 0 – ≤ 2,99	Repr. 2, H361d

Specific concentration limits:

Name	Product identifier	Specific concentration limits
2-[2-(2-butoxyethoxy)ethoxy] ethanol	(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
Poly(oxy-1,2-ethanediyl), .alpha.-butyl-.omega.-hydroxy	(CAS-No.) 9004-77-7 (EC-No.) 500-012-0 (EC Index-No.) 500-012-0 (REACH-no) 2119475115-41	(20 ≤C < 100) Eye Irrit. 2, H319

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

SECTION 4: First aid measures

4.1. Description of first aid measures

After inhalation : In all cases of doubt, or when symptoms persist, seek medical attention. Remove person to fresh air and keep comfortable for breathing.

After skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. If skin irritation occurs: Get medical advice/attention.

After eye contact : In case of eye contact, immediately rinse with clean water for 10-15 minutes. Consult an ophtalmologist if irritation persists.

After ingestion : If the person is fully conscious, make him/her drink plenty of water. Never give an unconscious person anything to drink. Immediately call a POISON CENTER/doctor. Never give anything by mouth to an unconscious person. Do not induce vomiting without medical advice.

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

After skin contact : Contact during a long period may cause light irritation.

After eye contact : May cause severe irritation.

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 : Water spray, powder, foam and CO2.

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : When exposed to high temperatures may produce hazardous decomposition products such as carbon monoxide and dioxide, smoke, nitrogen oxides (NOx).

5.3. Advice for firefighters

Protection during firefighting : Use self-contained breathing apparatus and chemically protective clothing. Do not enter fire area without proper protective equipment, including respiratory protection.

Other information : Exercise caution when fighting any chemical fire. Use a water spray to cool exposed surfaces and to protect fire-fighters.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Avoid contact with skin and eyes.

6.1.1. For non-emergency personnel

Protective equipment : Wear suitable protective clothing.

6.1.2. For emergency responders

Protective equipment : Wear suitable protective clothing and eye/face protection. Wear respiratory protection.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

Methods for cleaning up : Small quantities of liquid spill: take up in non-combustible absorbent material and shovel into container for disposal.

6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection". For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Precautions for safe handling : Ensure good ventilation of the work station. Take precautionary measures against static discharge.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Store in a well-ventilated place. Keep container tightly closed.

Storage conditions : Store in dry protected location to prevent any moisture contact. Store in a well-ventilated place. Keep container tightly closed.

Incompatible products : Mineral oil.

Incompatible materials : The substance is hygroscopic and absorbs water as it comes into contact with moisture in the air.

Storage area : Keep in a cool, well-ventilated place.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

2-(2-Methoxyethoxy)ethanol (111-77-3)		
EU	Local name	2-(2-Methoxyethoxy)ethanol
EU	IOELV TWA (mg/m³)	50,1 mg/m³
EU	IOELV TWA (ppm)	10 ppm
EU	Notes	Skin
EU	Regulatory reference	COMMISSION DIRECTIVE 2006/15/EC
Germany	Notes	
Ireland	Local name	2-(2-Methoxyethoxy)ethanol
Ireland	OEL (8 hours ref) (mg/m³)	50,1 mg/m³
Ireland	OEL (8 hours ref) (ppm)	10 ppm
Ireland	Notes (IE)	Sk (Substances which have the capacity to penetrate intact skin when they come in contact with it, and be absorbed into the body), IOELV (Indicative Occupational Exposure Limit Values)

2-(2-Methoxyethoxy)ethanol (111-77-3)		
Ireland	Regulatory reference	Chemical Agents Code of Practice 2020
United Kingdom	Local name	2-(2-Methoxyethoxy) ethanol
United Kingdom	WEL TWA (mg/m³)	50,1 mg/m³
United Kingdom	WEL TWA (ppm)	10 ppm
United Kingdom	Remark (WEL)	Sk (Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity)
United Kingdom	Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

8.2. Exposure controls

Technical measures:

Handle in accordance with good industrial hygiene and safety procedures.

Personal protective equipment:

Gloves. Safety glasses.

Hand protection:

Wear suitable gloves resistant to chemical penetration

Type	Material	Permeation	Thickness (mm)	Penetration	Standard
Reusable gloves	Butyl rubber, Nitrile rubber (NBR), Natural rubber, Polyvinylchloride (PVC)	6 (> 480 minutes)			EN ISO 374

Eye protection:

Safety goggles

Skin and body protection:

Wear suitable protective clothing, gloves and eye/face protection

Respiratory protection:

In case of inadequate ventilation wear respiratory protection.

Device	Filter type	Condition	Standard
Gas mask	Type A/P2	In the event of insufficient ventilation:	

Personal protective equipment symbol(s):

Other information:

Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Clear.
Colour	: Yellow.
Odour	: Characteristic.
Odour threshold	: No data available
pH	: 7 – 11,5 SAE J 1703
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: < -50 °C
Freezing point	: < -50 °C SAE J 1703
Boiling point	: > 260 °C SAE J 1703
Flash point	: > 120 °C IP 35

Auto-ignition temperature	: > 300 °C ASDTM D 286
Decomposition temperature	: > 300 °C
Flammability (solid, gas)	: No data available
Vapour pressure	: < 2 mbar Reid
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: 1057 (1030 – 1090) kg/m³ DIN 51757
Solubility	: Water: Soluble Ethanol: Soluble
Log Pow	: < 2
Log Kow	: < 2
Viscosity, kinematic	: 5 – 10 mm²/s
Viscosity, dynamic	: No data available
Explosive properties	: Product is not explosive.
Oxidising properties	: No data available
Explosive limits	: No data available

9.2. Other information
No additional information available

SECTION 10: Stability and reactivity
10.1. Reactivity
None under normal conditions.
10.2. Chemical stability
Stable under normal conditions of use.
10.3. Possibility of hazardous reactions
Glycol ethers can react with light metals with the evolution of hydrogen. Glycol Ethers can form peroxides on storage.
10.4. Conditions to avoid
No naked flames, sparks, and do not smoke.
10.5. Incompatible materials
Acids and bases. Oxidizing agent.
10.6. Hazardous decomposition products
When exposed to high temperatures may produce hazardous decomposition products such as carbon monoxide and dioxide, smoke, nitrogen oxides (NOx), sulphur compounds.

SECTION 11: Toxicological information
11.1. Information on toxicological effects
Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified
Additional information	: Probably harmless when inhaled because of the low vapor pressure of the substance at ambient temperature. May be harmful if swallowed

Brake Fluid Low Viscosity DOT 4+ LV	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rat	> 2000 mg/kg
LD50 dermal rabbit	> 3000

Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate (30989-05-0)	
LD50 oral rat	> 2000 mg/kg bodyweight
LD50 dermal rat	> 2000 mg/kg bodyweight

2-[2-(2-butoxyethoxy)ethoxy] ethanol (143-22-6)	
LD50 oral rat	> 5000 mg/kg bodyweight
LD50 dermal rabbit	3540 mg/kg bodyweight

Poly(oxy-1,2-ethanediyl), .alpha.-butyl-.omega.-hydroxy (9004-77-7)	
LD50 oral rat	> 2000 mg/kg bodyweight

LD50 dermal rabbit	3540 mg/kg bodyweight

2-(2-Methoxyethoxy)ethanol (111-77-3)	
LD50 dermal rabbit	9404 mg/kg bodyweight OECD 402

Skin corrosion/irritation : Not classified (Based on available data, the classification criteria are not met)
pH: 7 – 11,5 SAE J 1703

Additional information : Repeated exposure may cause skin dryness or cracking.

Serious eye damage/irritation : Not classified
pH: 7 – 11,5 SAE J 1703

Additional information : Causes eye irritation

Respiratory or skin sensitisation : Not classified (Based on available data, the classification criteria are not met)

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Suspected of damaging the unborn child. (Inconclusive data)

Additional information : May damage the unborn child.

STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate (30989-05-0)	
NOAEL (oral, rat, 90 days)	≥ 1000 mg/kg bodyweight

2-[2-(2-butoxyethoxy)ethoxy] ethanol (143-22-6)	
LOAEL (oral, rat, 90 days)	1200 mg/kg bodyweight OECD 408 (
NOAEL (oral, rat, 90 days)	400 mg/kg bodyweight OECD 408
NOAEL (dermal, rat/rabbit, 90 days)	4000 mg/kg bodyweight

Poly(oxy-1,2-ethanediyl), .alpha.-butyl-.omega.-hydroxy (9004-77-7)	
LOAEL (oral, rat, 90 days)	1200 mg/kg bodyweight
NOAEL (oral, rat, 90 days)	400 mg/kg bodyweight

2-(2-Methoxyethoxy)ethanol (111-77-3)	
NOAEL (oral, rat, 90 days)	900 mg/kg bodyweight OECD 407
NOAEC (inhalation, rat, vapour, 90 days)	> 1,06 mg/l air OECD 413

Aspiration hazard : Not classified

Brake Fluid Low Viscosity DOT 4+ LV	
Viscosity, kinematic	5 – 10 mm²/s

SECTION 12: Ecological information

12.1. Toxicity

General : No known adverse effects on the functioning of water treatment plants under normal use conditions as recommended.

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

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

Brake Fluid Low Viscosity DOT 4+ LV	
LC50 fish 1	> 100 mg/l 96 h - Oncorhynchus Mykiss

Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate (30989-05-0)	
LC50 fish 1	> 222,2 mg/l
LC50 fish 2	> 1010 mg/l

EC50 Daphnia 1	> 211,2 mg/l
EC50 Daphnia 2	> 960 mg/l
EC50 72h - Algae [1]	> 224,4 mg/l
EC50 72h - Algae [2]	> 1020 mg/l

2-[2-(2-butoxyethoxy)ethoxy] ethanol (143-22-6)	
LC50 fish 1	2400 mg/l Pimephales promelas
LC50 fish 2	2200 – 4600 mg/l Leuciscus idus
EC50 72h - Algae [1]	1589 mg/l Pseudokirchneriella subcapitata
EC50 72h - Algae [2]	3211 mg/l Pseudokirchneriella subcapitata

Poly(oxy-1,2-ethanediyl), .alpha.-butyl-.omega.-hydroxy (9004-77-7)	
LC50 fish 1	> 1800 mg/l
EC50 Daphnia 1	> 3200 mg/l
EC50 72h - Algae [1]	391 mg/l

2-(2-Methoxyethoxy)ethanol (111-77-3)	
LC50 fish 1	5741 mg/l Pimephales promelas
EC50 Daphnia 1	1192 mg/l Daphnia magna
EC50 96h - Algae [1]	> 1000 mg/l Pseudokirchneriella subcapitata

12.2. Persistence and degradability

Brake Fluid Low Viscosity DOT 4+ LV	
Biodegradation	> 100 % 28 d (OESO 302B)

12.3. Bioaccumulative potential

Brake Fluid Low Viscosity DOT 4+ LV	
Log Pow	< 2
Log Kow	< 2
Bioaccumulative potential	There is no bioaccumulation.

12.4. Mobility in soil

Brake Fluid Low Viscosity DOT 4+ LV	
Soil	Soluble in water and will partition to aqueos phase. Volatilisation from water to air not expected.

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

Additional information : Product may not be released into waters without pre-treatment (biological sewage plant).

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste) : Disposal must be done according to official regulations.

Product/Packaging disposal recommendations : Waste suitable for incineration.

European List of Waste (LoW) code : 16 01 13* - brake fluids

SECTION 14: Transport information

In accordance with ADR / IMDG

ADR	IMDG
14.1. UN number	
Not applicable	Not applicable
14.2. UN proper shipping name	
Not applicable	Not applicable

14.3. Transport hazard class(es)	
Not applicable	Not applicable
14.4. Packing group	
Not applicable	Not applicable
14.5. Environmental hazards	
Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No
No supplementary information available	

14.6. Special precautions for user

Overland transport

No data available

Transport by sea

No data available

14.7. Transport in bulk according to Annex II of Marpol 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 substance on the REACH candidate list
Contains no REACH Annex XIV substances
Contains no substance subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.
Contains no substance subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

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
	Supersedes	Modified	
	Revision date	Modified	
2.2	Precautionary statements (CLP)	Modified	

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
Repr. 2	Reproductive toxicity, Category 2
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H361d	Suspected of damaging the unborn child.

SDS MPM REACH

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.