MPM Brake Fluid DOT 5.1

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878
Issue date: 4-3-2020 Revision date: 14-10-2022 Supersedes: 7-5-2021 version: 6.7

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

1.1. Product identifier

Product form : Mixture
Trade name : MPM Brake Fluid DOT 5.1
Product code : 21000
Type of product : Brake fluids
Product group : Mixture

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,Industrial use,Consumer use
Industrial/Professional use spec : Non-dispersive use
Used in closed systems
Use of the substance/mixture : Brake fluids

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 - Nederland
T +31 (0)15 2514030
info@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) : P101 - If medical advice is needed, have product container or label at hand.
P102 - Keep out of reach of children.
P280 - Wear protective gloves.
P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P501 - Dispose of contents/container Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

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]
Methyl Triglycol Borate	(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
Butyl Triglycol	(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
Butyl Polyglycol	(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
Butyl Triglycol	(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
Butyl Polyglycol	(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

General : Remove to fresh air and keep at rest in a position comfortable for breathing. If medical advice is needed, have product container or label at hand.

After inhalation : Remove to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.

After skin contact : Take off immediately all contaminated clothing. If skin irritation occurs: Get medical advice/attention.

After eye contact : If eye irritation persists: Get medical advice/attention. In case of eye contact, immediately rinse with clean water for 10-15 minutes.

After ingestion : Do NOT induce vomiting. Rinse mouth. Call a physician immediately. If the person is fully conscious, make him/her drink plenty of water. Never give an unconscious person anything to drink.

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

After inhalation : May cause respiratory irritation.

After skin contact : Repeated exposure may cause skin dryness or cracking.

After eye contact : May cause severe irritation.

After ingestion : Abdominal pain, nausea. Vomiting.

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.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : Carbon monoxide. Carbon dioxide.

5.3. Advice for firefighters

Precautionary measures fire : Do not enter fire area without proper protective equipment, including respiratory protection.

Firefighting instructions : Use water spray or fog for cooling exposed containers. Prevent fire fighting water from entering the environment.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Mark out the contaminated area with signs and prevent access to unauthorized personnel.

6.1.1. For non-emergency personnel

Protective equipment : Wear suitable protective clothing and gloves.

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 spills with inert solids, such as clay or diatomaceous earth as soon as possible. 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

Precautions for safe handling : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not get in eyes, on skin, or on clothing. Keep container closed when not in use.

Hygiene measures : Do not eat, drink or smoke when using this product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Keep container tightly closed.

Incompatible products : Oxidizing agent.

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	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

2-(2-Methoxyethoxy)ethanol (111-77-3)		
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)
Ireland	Regulatory reference	Chemical Agents Code of Practice 2021
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:

Ensure good ventilation of the work station. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

Personal protective equipment:

Safety glasses. Gloves.

Hand protection:

Wear suitable gloves resistant to chemical penetration

Type	Material	Permeation	Thickness (mm)	Penetration	Standard
Reusable gloves	Butyl rubber, Natural rubber	6 (> 480 minutes)	0.3		EN ISO 374, EN 388

Eye protection:

Chemical goggles or safety glasses

Type	Field of application	Characteristics	Standard
Safety glasses, Face shield		With side shields	EN 166

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

No special respiratory protection equipment is recommended under normal conditions of use with adequate ventilation

Device	Filter type	Condition	Standard
Reusable half mask	Type A - High-boiling (>65 °C) organic compounds	In the event of insufficient ventilation:	

Personal protective equipment symbol(s):

Environmental exposure controls:

Avoid release to the environment.

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 : Amber.
Odour : Slight.

Odour threshold	: No data available
pH	: 7 – 10,5 SAE J 1704
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: < -50 °C SAE J 1704
Freezing point	: No data available
Boiling point	: > 260 °C SAE J 1704
Flash point	: > 120 °C IP 35
Auto-ignition temperature	: No data available
Decomposition temperature	: > 300 °C
Flammability (solid, gas)	: > 280 °C
Vapour pressure	: 1 mbar
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: 1067 (1020 – 1070) kg/m³ DIN 51757
Solubility	: Water: 100 % Ethanol: 100 %
Log Pow	: ≤ 2
Viscosity, kinematic	: 5 – 10 mm²/s @20C
Viscosity, dynamic	: No data available
Explosive properties	: No data available
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
The substance is hygroscopic and absorbs water as it comes into contact with moisture in the air.
10.3. Possibility of hazardous reactions
Peroxides may be formed on prolonged contact with air.
10.4. Conditions to avoid
Do not allow contact with water. No flames, no sparks. Eliminate all sources of ignition.
10.5. Incompatible materials
Strong oxidizing agent. Strong bases. Strong acids. water.
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), NH3, sulphur compounds.

SECTION 11: Toxicological information
11.1. Information on toxicological effects
Acute toxicity (oral)	: Not classified (Based on available data, the classification criteria are not met.)
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Due to the low vapor pressure, inhalation is unlikely to be a hazard at room temperature.
Additional information	: If a significant amount is ingested there is a risk of kidney damage which in extreme cases could lead to kidney failure, coma or dead. Symptoms of overexposure are dizziness, headache, tiredness, nausea, unconsciousness, breathing arrest.

MPM Brake Fluid DOT 5.1	
LD50 oral rat	5000 mg/kg Limited experience indicates that the fatal dose in humans may be lower.
LD50 dermal rabbit	3000 mg/kg

Methyl Triglycol Borate (30989-05-0)	
LD50 oral rat	> 2000 mg/kg bodyweight
LD50 dermal rat	> 2000 mg/kg bodyweight

Butyl Triglycol (143-22-6)	
LD50 oral rat	> 5000 mg/kg bodyweight
LD50 dermal rabbit	3540 mg/kg bodyweight

Butyl Polyglycol (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 – 10,5 SAE J 1704

Additional information : However, prolonged or repeated exposure can degrease the skin and lead to dermatitis.

Serious eye damage/irritation : Not classified
pH: 7 – 10,5 SAE J 1704

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 (Based on available data, the classification criteria are not met.)

Carcinogenicity : Not classified (Based on available data, the classification criteria are not met.)

Reproductive toxicity : Suspected of damaging the unborn child.

STOT-single exposure : Not classified. (Based on available data, the classification criteria are not met.)

MPM Brake Fluid DOT 5.1	
NOAEL (oral, rat)	500 mg/kg bodyweight

STOT-repeated exposure : Not classified (Based on available data, the classification criteria are not met.)

Methyl Triglycol Borate (30989-05-0)	
NOAEL (oral, rat, 90 days)	≥ 1000 mg/kg bodyweight

Butyl Triglycol (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

Butyl Polyglycol (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

MPM Brake Fluid DOT 5.1	
Viscosity, kinematic	5 – 10 mm²/s @20C

Other information : Irritant side effects: The product contains substances that can irritate locally through skin/eye contact or when inhaled. Contact with local irritants may result in the contact area more easily absorbing harmful substances, such as allergens.

SECTION 12: Ecological information

12.1. Toxicity

General : The product is not expected to be harmful to the environment.

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

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

MPM Brake Fluid DOT 5.1	
LC50 fish 1	> 100 mg/l @96h (Oncorhynchus Mykiss)

Methyl Triglycol Borate (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

Butyl Triglycol (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

Butyl Polyglycol (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

MPM Brake Fluid DOT 5.1	
Persistence and degradability	Readily biodegradable.

12.3. Bioaccumulative potential

MPM Brake Fluid DOT 5.1	
Log Pow	≤ 2
Bioaccumulative potential	No bioaccumulation expected.

12.4. Mobility in soil

MPM Brake Fluid DOT 5.1	
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

No additional information available.

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.

Waste disposal recommendations	: Dispose in a safe manner in accordance with local/national regulations. Remove to an authorized waste treatment plant.
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 additional information available.

SECTION 16: Other information

Indication of changes:

Section	Changed item	Change	Comments
	Revision date	Modified	
	Supersedes	Modified	
	PBT Comment	Added	
	Adverse health effects caused by endocrine disrupting properties	Added	

	Acute toxicity (inhalation) - comment	Added	
1.2	Industrial/Professional use spec	Added	
1.2	Use of the substance/mixture	Modified	
1.2	Main use category	Modified	
2.1	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Modified	
2.2	Precautionary statements (CLP)	Modified	
4.1	General	Added	
4.1	After skin contact	Modified	
4.1	After inhalation	Modified	
4.1	After ingestion	Modified	
4.1	After eye contact	Modified	
4.2	After inhalation	Added	
4.2	After ingestion	Added	
4.2	After skin contact	Modified	
5.1	Suitable extinguishing media	Modified	
5.2	Hazardous decomposition products in case of fire	Modified	
5.3	Precautionary measures fire	Added	
5.3	Firefighting instructions	Added	
5.3	Protection during firefighting	Modified	
6.1	Protective equipment	Modified	
6.1	General measures	Modified	
6.2	Environmental precautions	Modified	
6.3	Methods for cleaning up	Modified	
7.1	Precautions for safe handling	Modified	
7.1	Hygiene measures	Modified	
7.2	Incompatible products	Added	
7.2	Storage conditions	Added	
8.2	Environmental exposure controls	Added	
8.2	Respiratory protection	Modified	
8.2	Personal protective equipment	Modified	
8.2	Eye protection	Modified	
8.2	Technical measures	Modified	
8.2	Skin and body protection	Modified	
9.1	Flash point	Modified	
9.1	Viscosity, kinematic	Added	
9.1	Flammability (solid, gas)	Added	
9.1	Solubility in water	Added	
9.1	Solubility in ethanol	Added	
9.1	Decomposition temperature	Added	
9.1	Log Pow	Added	
9.1	pH	Added	
9.1	Vapour pressure	Modified	
9.1	Melting point	Modified	

9.1	Colour	Modified	
9.1	Boiling point	Modified	
9.1	Density	Modified	
10.1	Reactivity	Modified	
10.2	Chemical stability	Modified	
10.3	Possibility of hazardous reactions	Modified	
10.4	Conditions to avoid	Modified	
10.5	Incompatible materials	Modified	
10.6	Hazardous decomposition products	Added	
11.1	ATE CLP (oral)	Added	
11.1	ATE CLP (dermal)	Added	
11.1	Reason for no classification	Added	
11.1	NOAEL (oral, rat)	Added	
11.1	Reason for no classification	Added	
11.1	Reason for no classification	Added	
11.1	Reason for no classification	Added	
11.1	Reason for no classification	Added	
11.1	Reason for no classification	Added	
11.1	Reason for no classification	Added	
11.1	Additional information	Added	
11.1	Reason for no classification	Added	
11.1	Other information	Added	
11.1	LD50 dermal rabbit	Added	
11.1	Additional information	Modified	
11.1	Additional information	Modified	
11.1	LD50 oral rat	Modified	
12.1	LC50 fish 1	Modified	
12.1	General	Modified	
12.2	Persistence and degradability	Added	
12.3	Log Pow	Added	
12.4	Soil	Modified	
13.1	Waste disposal recommendations	Added	
13.1	Product/Packaging disposal recommendations	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.