SAFETY DATA SHEET

(REACH regulation (EC) n° 1907/2006 - n° 2015/830)

SECTION 1 : IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product name : DOT 5.1
Product code : 27400

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

Brake fluid

1.3. Details of the supplier of the safety data sheet

Registered company name : MOTUL
Address : 119, Boulevard Felix Faure. 93300 AUBERVILLIERS CEDEX FRANCE
Telephone : 33.1.48.11.70.00. Fax: 33.1.48.33.28.79. Telex: .
Email : motul_hse@motul.fr

1.4. Emergency telephone number : +44 (0) 1235 239 670.

Association/Organisation : ORFILA.

Other emergency numbers

BRAZIL : +55 11 3197 5891 / COLOMBIA : +57 1 508 7337 / ARGENTINA : +54 11 5984 3690 / CHILE : +562 2582 9336
Ireland : +353 1 8092566
UNITED STATES: 001 866 928 0789 / CANADA: 001 800 579 7421 / MEXICO : +52 55 5004 8763 / MIDDLE EAST - AFRICA : +44 1235 239671
24 hours a day, 7 days a week

SECTION 2 : HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

In compliance with EC regulation No. 1272/2008 and its amendments.

Reproductive toxicity, Category 2 (Repr. 2, H361d).
This mixture does not present a physical hazard. Refer to the recommendations regarding the other products present on the site.
This mixture does not present an environmental hazard. No known or foreseeable environmental damage under standard conditions of use.

2.2. Label elements

In compliance with EC regulation No. 1272/2008 and its amendments.

Hazard pictograms :

GHS08

Signal Word :
WARNING
Product identifiers :

EC 250-418-4	TRIS[2-[2-(2-METHOXYETHOXY)ETHOXY]ETHYL] ORTHOBORATE

Hazard statements :

H361d	Suspected of damaging the unborn child.

Precautionary statements - General :

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.

Precautionary statements - Prevention :

P202	Do not handle until all safety precautions have been read and understood.
P280	Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary statements - Response :

P308 + P313	IF exposed or concerned: Get medical advice/attention.

Precautionary statements - Storage :

P405	Store locked up.

Precautionary statements - Disposal :

P501	Dispose of contents / container according to prefectural ordinances.

Other information :

2.3. Other hazards

The mixture does not contain substances classified as 'Substances of Very High Concern' (SVHC) >= 0.1% published by the European CHemicals Agency (ECHA) under article 57 of REACH: http://echa.europa.eu/fr/candidate-list-table
The mixture fulfils neither the PBT nor the vPvB criteria for mixtures in accordance with annexe XIII of the REACH regulations EC 1907/2006.

SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

Composition :

Identification	(EC) 1272/2008	Note	%
CAS: 30989-05-0 EC: 250-418-4 REACH: 2119462824-33 TRIS[2-[2-(2-METHOXYETHOXY)ETHOXY]ETHYL] ORTHOBORATE	GHS08 Wng Repr. 2, H361d	[2]	50 <= x % < 100
CAS: 143-22-6 EC: 205-592-6 REACH: 01-2119475107-38 2-(2-(2-BUTOXYETHOXY)ETHOXY)ETHANOL	GHS05 Dgr Eye Dam. 1, H318		2.5 <= x % < 10 *
CAS: 9004-77-7 EC: 500-012-0 REACH: 2119475115-41 POLY(OXY-1,2-ETHANEDIYL), ?-BUTYL-O-HYDROXY-	GHS07 Wng Eye Irrit. 2, H319		2.5 <= x % < 10 *
CAS: 111-77-3 EC: 203-906-6 REACH: 2119475100-52 2-(2-METHOXYETHOXY)ETHANOL	GHS08 Wng Repr. 2, H361d	[1] [2]	2.5 <= x % < 10

(Full text of H-phrases: see section 16)

Information on ingredients :

[1] Substance for which maximum workplace exposure limits are available.
[2] Carcinogenic, mutagenic or reprotoxic (CMR) substance.

Other data :

*This substance has a specific concentration limit (SCL)

SECTION 4 : FIRST AID MEASURES

As a general rule, in case of doubt or if symptoms persist, always call a doctor.
NEVER induce swallowing by an unconscious person.

4.1. Description of first aid measures

In the event of exposure by inhalation :

Remove the victim to fresh air. If the symptoms persist, call a physician.

In the event of splashes or contact with eyes :

Wash immediately and abundantly with water, including under the eyelids.

In the event of splashes or contact with skin :

Immediately remove all soiled clothing.
Wash immediately and abundantly with soap and water.

In the event of swallowing :

Seek medical attention, showing the label.

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

No data available.

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

No data available.

SECTION 5 : FIREFIGHTING MEASURES

Non-flammable.

5.1. Extinguishing media

Suitable methods of extinction

Dry agent, foam, carbon dioxide.

Unsuitable methods of extinction

High volume water jet

5.2. Special hazards arising from the substance or mixture

A fire will often produce a thick black smoke. Exposure to decomposition products may be hazardous to health.
Do not breathe in smoke.
In the event of a fire, the following may be formed :
- carbon monoxide (CO)
- carbon dioxide (CO2)

5.3. Advice for firefighters

No data available.

SECTION 6 : ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Consult the safety measures listed under headings 7 and 8.
Spilled product may make surfaces slippery.

For first aid worker

First aid workers will be equipped with suitable personal protective equipment (See section 8).

6.2. Environmental precautions

Contain and control the leaks or spills with non-combustible absorbent materials such as sand, earth, vermiculite, diatomaceous earth in drums for waste disposal.
Prevent any material from entering drains or waterways.

6.3. Methods and material for containment and cleaning up

Clean preferably with a detergent, do not use solvents.

6.4. Reference to other sections

No data available.

SECTION 7 : HANDLING AND STORAGE

Requirements relating to storage premises apply to all facilities where the mixture is handled.
Avoid exposure to pregnant women and warn women of child-bearing age of the possible risks

7.1. Precautions for safe handling

Always wash hands after handling.
Remove and wash contaminated clothing before re-using.
To be translated (XML)
No special precaution apart from the observance of hygiene rules

Fire prevention :

Prevent access by unauthorised personnel.
Take precautionary measures against static discharges by bonding and grounding equipment.
No smoking.

Recommended equipment and procedures :

For personal protection, see section 8.
Observe precautions stated on label and also industrial safety regulations.
Avoid exposure - obtain special instructions before use.
Ensure good ventilation at the workplace

Prohibited equipment and procedures :

No smoking, eating or drinking in areas where the mixture is used.
Do not breathe fumes, vapour, spray.

7.2. Conditions for safe storage, including any incompatibilities

Store between 5°C and 40°C in a dry, well ventilated place.
Only use hydrocarbon-resistant containers, joints and pipes.

Storage

Keep out of reach of children.

Packaging

Always keep in packaging made of an identical material to the original.

7.3. Specific end use(s)

No data available.

SECTION 8 : EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Occupational exposure limits :

- European Union (2019/1831, 2017/2398, 2017/164, 2009/161, 2006/15/CE, 2000/39/CE, 98/24/CE) :

CAS	VME-mg/m3 :	VME-ppm :	VLE-mg/m3 :	VLE-ppm :	Notes :
111-77-3	50.1	10	-	-	Peau

- Germany - AGW (BAuA - TRGS 900, 08/08/2019) :

CAS	VME :	VME :	Excess	Notes
111-77-3		10 ppm 50 mg/m³		

- France (INRS - ED984 / 2019-1487) :

CAS	VME-ppm :	VME-mg/m3 :	VLE-ppm :	VLE-mg/m3 :	Notes :	TMP No :
111-77-3	10	50.1	-	-	*. R3	84

- UK / WEL (Workplace exposure limits, EH40/2005, 2011) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
111-77-3	10 ppm 50.1 mg/m³	- ppm - mg/m³		Sk	

8.2. Exposure controls

Appropriate engineering controls

Ensure adequate ventilation, if possible with extractor fans at work posts and appropriate general extraction.
Personnel shall wear regularly laundered overalls.

Personal protection measures, such as personal protective equipment

Pictogram(s) indicating the obligation of wearing personal protective equipment (PPE) :

Use personal protective equipment that is clean and has been properly maintained.
Store personal protective equipment in a clean place, away from the work area.
Never eat, drink or smoke during use. Remove and wash contaminated clothing before re-using. Ensure that there is adequate ventilation, especially in confined areas.

- Eye / face protection

Avoid contact with eyes.
Use eye protectors designed to protect against liquid splashes
Before handling, wear safety goggles in accordance with standard EN166.

- Hand protection

Wear suitable protective gloves in the event of prolonged or repeated skin contact.
Use suitable protective gloves that are resistant to chemical agents in accordance with standard EN ISO 374-1.
Gloves must be selected according to the application and duration of use at the workstation.
Protective gloves need to be selected according to their suitability for the workstation in question : other chemical products that may be handled, necessary physical protections (cutting, pricking, heat protection), level of dexterity required.
Type of gloves recommended :
- Natural latex

Glove thickness:	0.38 mm
Break-through time:	> 480 mn

Recommended properties :
- Impervious gloves in accordance with standard EN ISO 374-2

- Body protection

Work clothing worn by personnel shall be laundered regularly.
After contact with the product, all parts of the body that have been soiled must be washed.

- Respiratory protection

Breathing apparatus only when aerosol or spray are formed.

SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

General information :

Physical state :	Fluid liquid.
Color:	Amber

Important health, safety and environmental information

pH :	Not stated.
	Slightly basic.
Flash Point Interval :	FP > 100°C.
Vapour pressure (50°C) :	Not relevant.
Density :	> 1
Water solubility :	Soluble.
Partition coefficient: n-octanol/water :	<2.0
Viscosity :	5-10 mm²/s à 20°C

9.2. Other information

No data available.

SECTION 10 : STABILITY AND REACTIVITY

10.1. Reactivity

No data available.

10.2. Chemical stability

This mixture is stable under the recommended handling and storage conditions in section 7.

10.3. Possibility of hazardous reactions

No data available.

10.4. Conditions to avoid

Keep away from heat and from sources of ignition
Take precautionary measures against static discharges.

10.5. Incompatible materials

Strong oxidants
Acids

10.6. Hazardous decomposition products

The thermal decomposition may release/form :
- carbon monoxide (CO)
- carbon dioxide (CO2)

SECTION 11 : TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Suspected human reproductive toxicant.
Suspected of damaging the unborn child.

11.1.1. Substances

No toxicological data available for the substances.

11.1.2. Mixture

Acute toxicity :

Oral route : No observed effect.
Species : Rat
LD50 > 5000 mg/kg
Species : Rabbit
LD50 > 3000 mg/kg

Skin corrosion/skin irritation :

Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in non allergic contact dermatitis and absorption through the skin.

Serious damage to eyes/eye irritation :

Mild eye irritation

Aspiration hazard :

"Inhalation of vapours may cause irritation of the respiratory system in very susceptible persons."
May cause lung damage if swallowed

SECTION 12 : ECOLOGICAL INFORMATION

12.1. Toxicity

12.1.2. Mixtures

Fish toxicity : No observed effect.
LC50 > 100 mg/l
Species : Oncorhynchus mykiss
Duration of exposure : 96 h

12.2. Persistence and degradability

12.2.2. Mixtures

Biodegradability : Rapidly degradable.

12.3. Bioaccumulative potential

12.3.2. Mixtures

Octanol/water partition coefficient : log Koe < 3.
Does not have the potential for bioconcentration.

12.4. Mobility in soil

Water soluble
Mobile in soil

12.5. Results of PBT and vPvB assessment

No data available.

12.6. Other adverse effects

Do not dispose of the product in the natural environment, effluents or surface waters.

German regulations concerning the classification of hazards for water (WGK, AwSV vom 18/04/2017, KBws) :

WGK 1 : Slightly hazardous for water.

SECTION 13 : DISPOSAL CONSIDERATIONS

Proper waste management of the mixture and/or its container must be determined in accordance with Directive 2008/98/EC.

13.1. Waste treatment methods

Do not pour into drains or waterways.

Waste :

Waste management is carried out without endangering human health, without harming the environment and, in particular without risk to water, air, soil, plants or animals.
Recycle or dispose of waste in compliance with current legislation, preferably via a certified collector or company.
Do not contaminate the ground or water with waste, do not dispose of waste into the environment.

Soiled packaging :

Empty container completely. Keep label(s) on container.
Give to a certified disposal contractor.

Codes of wastes (Decision 2014/955/EC, Directive 2008/98/EEC on hazardous waste) :

16 01 13 * brake fluids

SECTION 14 : TRANSPORT INFORMATION

Exempt from transport classification and labelling.

14.1. UN number

-

14.2. UN proper shipping name

-

14.3. Transport hazard class(es)

-

14.4. Packing group

-

14.5. Environmental hazards

-

14.6. Special precautions for user

-

SECTION 15 : REGULATORY INFORMATION

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

- Classification and labelling information included in section 2:

The following regulations have been used:
- EU Regulation No. 1272/2008 amended by EU Regulation No. 2020/217 (ATP 14)

- Container information:

Containers to be fitted with a tactile warning of danger (see EC Regulation No. 1272/2008, Annex II, Part 3).

- Particular provisions :

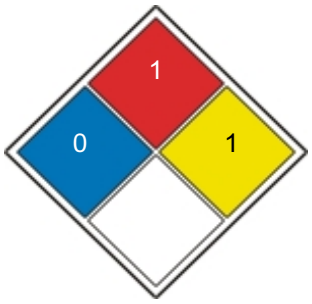
No data available.

- German regulations concerning the classification of hazards for water (WGK, AwSV vom 18/04/2017, KBws) :

WGK 1 : Slightly hazardous for water.

- Standardised American system for the identification of hazards presented by the product in view of emergency procedures (NFPA 704) :

NFPA 704, Labelling: Health=0 Inflammability=1 Instability/Reactivity=1 Specific Risk=none



15.2. Chemical safety assessment

No data available.

SECTION 16 : OTHER INFORMATION

Since the user's working conditions are not known by us, the information supplied on this safety data sheet is based on our current level of knowledge and on national and community regulations.
The mixture must not be used for other uses than those specified in section 1 without having first obtained written handling instructions.
It is at all times the responsibility of the user to take all necessary measures to comply with legal requirements and local regulations.
The information in this safety data sheet must be regarded as a description of the safety requirements relating to the mixture and not as a guarantee of the properties thereof.

Wording of the phrases mentioned in section 3 :

H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H361d	Suspected of damaging the unborn child.

Abbreviations :

CMR: Carcinogenic, mutagenic or reprotoxic.
ADR : European agreement concerning the international carriage of dangerous goods by Road.
IMDG : International Maritime Dangerous Goods.
IATA : International Air Transport Association.
ICAO : International Civil Aviation Organisation
RID : Regulations concerning the International carriage of Dangerous goods by rail.
WGK : Wassergefahrdungsklasse (Water Hazard Class).
GHS08 : Health hazard
PBT: Persistent, bioaccumulable and toxic.
vPvB : Very persistent, very bioaccumulable.
SVHC : Substances of very high concern.

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