

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 : .

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.

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 a health hazard with the exception of possible occupational exposure thresholds (see paragraphs 3 and 8).

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.

Precautionary statements - General :

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

Other information :

2.3. Other hazards

The mixture does not contain substances classified as 'Substances of Very High Concern' (SVHC) $\geq 0.1\%$ 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: 143-22-6 EC: 205-592-6 REACH: 01-2119531322-53 2-(2-(2-BUTOXYETHOXY)ETHOXY)ETHANOL	GHS05 Dgr Eye Dam. 1, H318		10 \leq x % < 25 *
CAS: 111-46-6 EC: 203-872-2 REACH: 01-2119457857-21 2,2'-OXYDIETHANOL	GHS07, GHS08 Wng Acute Tox. 4, H302 STOT RE 2, H373	[1]	2.5 \leq x % < 10

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



Information on ingredients :

[1] Substance for which maximum workplace exposure limits are available.



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.

7.1. Precautions for safe handling

Always wash hands after handling.

Avoid contact with eyes.

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.

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 :

- Germany - AGW (BAuA - TRGS 900, 29/01/2018) :

CAS	VME :	VME :	Excess	Notes
111-46-6		10 ppm 44 mg/m ³		4(II)

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

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
111-46-6	23 ppm 101 mg/m ³	- ppm - mg/m ³			

Derived no effect level (DNEL) or derived minimum effect level (DMEL):

2,2'-OXYDIETHANOL (CAS: 111-46-6)

Final use:

Exposure method:

Potential health effects:

DNEL :

Workers.

Dermal contact.

Long term systemic effects.

106 mg/kg de poids corporel/jour

Exposure method:

Potential health effects:

DNEL :

Inhalation.

Long term systemic effects.

60 mg de substance/m³

Final use:

Exposure method:

Potential health effects:

DNEL :

Consumers.

Dermal contact.

Long term systemic effects.

53 mg/kg de poids corporel/jour

Exposure method:

Potential health effects:

DNEL :

Inhalation.

Long term systemic effects.

12 mg de substance/m³

2-(2-(2-BUTOXYETHOXY)ETHOXY)ETHANOL (CAS: 143-22-6)

Final use:

Exposure method:

Workers.

Dermal contact.

Potential health effects: Long term systemic effects.
DNEL : 50 mg/kg de poids corporel/jour

Exposure method: Inhalation.
Potential health effects: Long term systemic effects.
DNEL : 195 mg de substance/m3

Final use: **Consumers.**
Exposure method: Ingestion.
Potential health effects: Long term systemic effects.
DNEL : 2.5 mg/kg de poids corporel/jour

Exposure method: Dermal contact.
Potential health effects: Long term systemic effects.
DNEL : 25 mg/kg de poids corporel/jour

Exposure method: Inhalation.
Potential health effects: Long term systemic effects.
DNEL : 117 mg de substance/m3

**Predicted no effect concentration (PNEC):**

2,2'-OXYDIETHANOL (CAS: 111-46-6)

Environmental compartment: Soil.
PNEC : 1.53 mg/kg

Environmental compartment: Fresh water.
PNEC : 10 mg/l

Environmental compartment: Sea water.
PNEC : 1 mg/l

Environmental compartment: Intermittent waste water.
PNEC : 10 mg/l

Environmental compartment: Fresh water sediment.
PNEC : 20.9 mg/kg

Environmental compartment: Waste water treatment plant.
PNEC : 199.5 mg/l

2-(2-(2-BUTOXYETHOXY)ETHOXY)ETHANOL (CAS: 143-22-6)

Environmental compartment: Soil.
PNEC : 0.45 mg/kg

Environmental compartment: Fresh water.
PNEC : 1.5 mg/l

Environmental compartment: Sea water.
PNEC : 0.25 mg/l

Environmental compartment: Intermittent waste water.
PNEC : 5.0 mg/l

Environmental compartment: Fresh water sediment.
PNEC : 5.77 mg/kg

Environmental compartment: Marine sediment.
PNEC : 0.13 mg/kg

Environmental compartment: Waste water treatment plant.
PNEC : 200 mg/l

Environmental compartment: Salt water predators (oral).

PNEC : 111 mg/kg

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.
Type of gloves recommended :
- Natural latex

- 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.
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Important health, safety and environmental information

pH :	Not stated.
	Slightly basic.
Boiling point/boiling range :	261 °C.
Flash Point Interval :	FP > 100°C.
Vapour pressure (50°C) :	Not relevant.
Density :	> 1
Water solubility :	Soluble.
Viscosity :	5-10 cSt à 20°C
Self-ignition temperature :	301 °C.
Decomposition point/decomposition range :	301 °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

No data available.

11.1.1. Substances

Specific target organ systemic toxicity - repeated exposure :

2,2'-OXYDIETHANOL (CAS: 111-46-6)

Oral route : 50 < C <= 100 mg/kg body weight/day
Duration of exposure : 90 jours

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 : no degradability data is available, the substance is considered as not degrading quickly.

Biodegradability in water : Easily biodegradable.

12.3. Bioaccumulative potential

12.3.2. Mixtures

Octanol/water partition coefficient : log K_{ow} < 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.

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

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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. 2018/669 (ATP 11)

- Container information:

No data available.

- Particular provisions :

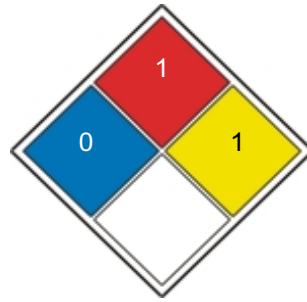
No data available.

- 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

Product is not classified health and environmental hazard. Exposure scenarios are not required.

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 :

H302	Harmful if swallowed.
H318	Causes serious eye damage.
H373	May cause damage to organs through prolonged or repeated exposure .



Abbreviations :

DNEL : Derived No-Effect Level

PNEC : Predicted No-Effect Concentration

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 : Wassergefährdungsklasse (Water Hazard Class).

PBT: Persistent, bioaccumulable and toxic.

vPvB : Very persistent, very bioaccumulable.

SVHC : Substances of very high concern.