

SAFETY DATA SHEET

SECTION 1 Chemical product and company identification

Product name	Brake Fluid
Product code	DOT 5.1
Name of company	Brembo S.p.A.
Address	Via Brembo, 25 24035 Curno (IT) , Italy
Tel.	035 605 1111
E-mail	SDS@brembo.it
Emergency number	+39 035 6051111 (8.30 – 17.30 IT, EN)

Recommended use

Recommended use	For hydraulic braking and hydraulic clutch system of motor vehicles
Restrictions on Use	Not suitable for use in polar environment

SECTION 2: Hazards identification

Emergency overview

After swallowing: Rinse mouth. In case of skin contact: remove/remove all contaminated clothing immediately. Rinse skin/shower with water. After inhalation: fresh air. After eye contact: wash off with plenty of water. If you wear contact lenses and can easily take them out, take them out. Continue flushing.

GHS classification

Physical hazards	Not classified as hazardous according to GHS standards
Health hazards	Not classified as hazardous according to GHS standards
Environmental hazards	Not classified as hazardous according to GHS standards

Label elements

Hazard pictograms (GHS CN)



Signal word (GHS CN)

Warning

Hazard statements (GHS CN)

Not used

Precautionary statements (GHS CN)

Prevention precautionary statements	P101 - If medical advice is needed, have product container or label at hand. P103 - Read carefully and follow all instructions. P264 - Wash thoroughly after handling. P301 + P330 - IF SWALLOWED: Rinse mouth. P302 + P362 + P353 - IF ON SKIN: Take off contaminated clothing. Rinse skin with water [or shower].
Response Precautionary Statements	P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Storage precautionary statements	P402 + P404 - Store in a dry place. Store in a closed container. P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.
Disposal precautionary statements	P503 - Refer to manufacturer/supplier for information on disposal/recovery/recycling.

Other information

Physical and chemical hazards	No known physical and chemical hazards.
Health hazards	No health hazards.
Environmental hazards	No Environmental hazards.
Other hazards	No additional information available

SECTION 3 Composition/information on ingredients

Product form Mixture.

Name	CAS No.	Concentration (%)
Ethanol, 2-[2-(2-methoxyethoxy)ethoxy]-, triester with boric acid	30989-05-0	54.0~65.0
2, 5, 8, 11-Tetraoxatridecan-13-ol	23783-42-8	20.0~28.0
Ethanol, 2-[2-(2-methoxyethoxy)ethoxy]-	112-35-6	10.0~18.0
Additive (No hazardous ingredients)	-	1.5~2

Diisopropanolamine

110-97-4

0.01~1.0

SECTION 4 First aid measures**Emergency**

First-aid measures general	If an accident or discomfort occurs, seek medical help immediately.
First-aid measures after inhalation	Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	Take off contaminated clothing. Rinse skin with water [or shower].
First-aid measures after eye contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
First-aid measures after ingestion	Rinse mouth.

Most Important Symptoms/Effects

No additional information available.

Personal Protection in First Aid and Measures

No additional information available.

Notes for the doctor

Note to physician Treat symptomatically

SECTION 5 Fire fighting measures**Extinguishing media**

Suitable extinguishing media	Water spray
	Dry powder
	Foam
	Carbon dioxide
Unsuitable extinguishing media	No additional information available

Special hazard

Toxic fumes may be released No additional information available

Advice for firefighters and protective measures

Firefighting instructions	No additional information available
Protective equipment for firefighters	Do not attempt to take action without suitable protective equipment Self-contained breathing apparatus Complete protective clothing

SECTION 6 Accidental release measures**Personal precautions, protective equipment and emergency procedures****For non-emergency personnel**

Emergency procedures Ventilate spillage area

For emergency responders

Protective equipment Do not attempt to take action without suitable protective equipment
For further information refer to section 8: "Exposure controls/personal protection"

Environmental precautions Avoid release to the environment

Methods and Equipment for Containment and Cleaning up

Methods for cleaning Take up liquid spill into absorbent material. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage.

For containment Store away from other materials.

Prevention Measures for Secondary Accidents

Prevention Measures for Secondary Accidents No additional information available

Other information

Dispose of materials or solid residues at an authorized site

SECTION 7 Handling and storage**Handling**

Precautions for safe handling Ensure good ventilation in the workplace.
Wear personal protective equipment.
Prevent a small amount of overflow and leakage, and avoid the danger of slipping.

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

Local and general ventilation Proper ventilation is required, especially in closed places

Storage

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

Material used in packaging/containers Cold-rolled steel sheet (no coating inside, N2 protection, no galvanizing), HDPE (High Density Polyethylene)

SECTION 8 Exposure controls / Personal protection equipment**Occupational Exposure Limits**

No additional information available

Biological limit values

No additional information available

Monitoring methods

No additional information available

Appropriate engineering controls	Ensure good ventilation at the working point
Personal protective equipment	
Environmental exposure controls	Avoid release to the environment
Hand protection	Protective gloves
Eye protection	Generally, no special protection is required
Skin and body protection	Wear suitable protective clothing
Respiratory protection	[In case of inadequate ventilation] wear respiratory protection.

SECTION 9 Physical and chemical properties

Physical state	Liquid
Appearance	Transparent, light yellow Liquid
Colour	Transparent, light yellow
Odour	Characteristic
pH	7.0 ~ 9.0
Melting point	Not applicable
Freezing point	No data available
Boiling point	≥ 265.0 °C
Wet boiling point	≥ 185.0 °C
Flash point	> 120 °C
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Flammability	Non flammable
Vapour pressure	No data available
Relative vapour density at 20°C	No data available
Relative density (20 °C)	No data available
Solubility	Dissolve in water
Partition coefficient octanol/water (Log Pow)	n- No data available
Upper explosion limit	No data available
Lower explosion limit	No data available
Kinematic viscosity, -40°C	≤ 900 mm ² /s
Kinematic viscosity, 100°C	≥ 1.5 mm ² /s
Radioactive	No

SECTION 10 Stability and reactivity

Reactivity	The product is non-reactive under normal conditions of use, storage and transport
Chemical stability	Stable under normal conditions
Possibility of hazardous reactions	No dangerous reactions known under normal conditions of use
Conditions to avoid	Excessive heat. High energy ignition source.
Incompatible materials	strong acid Strong base Strong oxidant
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced
Other properties	No additional information available

SECTION 11 Toxicological information**Acute toxicity**

Acute toxicity (oral)	Not classified
Acute toxicity (dermal)	Not classified
Acute toxicity (inhalation)	Not classified

Ethanol, 2-[2-(2-methoxyethoxy)ethoxy]-, triester with boric acid	
LD50 oral rat	> 2000 mg/kg
LD50 dermal rat	> 2000 mg/kg
2, 5, 8, 11-Tetraoxatridecan-13-ol	
LD50 oral rat	> 15000 mg/kg
Ethanol, 2 - [2 - (2-methoxyethoxy) ethoxy]-	
LD50 oral rat	> 10500 mg/kg
LD50 dermal rabbit	7100 mg/kg
Diisopropanolamine	
LD50 dermal rabbit	8000 mg/kg

Skin corrosion/irritation

Skin corrosion/irritation	Not classified
pH	7.0 ~ 9.0

Serious eye damage/irritation

Serious eye damage/irritation	Not classified
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Respiratory or skin sensitisation

Respiratory or skin sensitisation	Not classified
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Germ cell mutagenicity

Germ cell mutagenicity	Not classified
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Carcinogenicity

Carcinogenicity	Not classified
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Reproductive toxicity

Reproductive toxicity Not classified

STOT-single exposure

STOT-single exposure Not classified

STOT-repeated exposure

STOT-repeated exposure Not classified

Aspiration hazard

Aspiration hazard Not classified

SECTION 12 Ecological information
Ecotoxicity

Ecology - general Not classified

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

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

Ethanol, 2-[2-(2-methoxyethoxy)ethoxy]-, triester with boric acid	
EC50 - Crustacea [1]	> 1000 mg/l (Exposure time: 48 h - Species: Daphnia magna)
2, 5, 8, 11-Tetraoxatridecan-13-ol	
LC50 - Fish [1]	> 10000 mg/l (Exposure time: 96 h - Species: Brachydanio rerio)
Ethanol, 2 - [2 - (2-methoxyethoxy) ethoxy]-	
EC50 - Crustacea [1]	> 500 mg/l (Exposure time: 48 h - Species: Daphnia magna)
ErC50 algae	> 500 mg/l (Exposure time: 72 h - Species: Desmodesmus subspicatus)
Diisopropanolamine	
LC50 - Other aquatic organisms [1]	15000 mg/l 17 h
ErC50 algae	339 mg/172 h

Persistence and degradability

Diisopropanolamine	
Persistence and degradability	Readily biodegradable.
ThOD	2.41 mg/mg
BOD (% of ThOD)	2.5 ~ 38.2 %ThOD Biodegradation rate may increase in soil and/or water with acclimation.

Bioaccumulative potential

Ethanol, 2-[2-(2-methoxyethoxy)ethoxy]-, triester with boric acid	
Partition coefficient n-octanol/water (Log Pow)	-1.47 (Diethylenglycol; at pH 7)
2, 5, 8, 11-Tetraoxatridecan-13-ol	
Partition coefficient n-octanol/water (Log Pow)	-0.6

Diisopropanolamine

Partition coefficient n-octanol/water (Log Pow)	- 0.82
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Mobility in soil**Diisopropanolamine**

Mobility in soil	0 ~ 50 Potential for mobility in soil is very high
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Other adverse effects

Classification procedure (Ozone)	Not classified
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SECTION 13 Disposal considerations

Waste treatment methods Recycle if applicable. If it cannot be recycled, it should be disposed of by incineration.
Do not dispose of this product by discharge to the sewer.
Dispose of contents/container in accordance with licensed collector' s sorting instructions.

SECTION 14 Transport information

Overland transport (JT/T 617)	Transport by sea (IMDG)	Air transport (IATA)
UN number		
Not regulated	Not regulated	Not regulated
UN proper shipping name		
Not regulated	Not regulated	Not regulated
Transport document description		
Not regulated	Not regulated	Not regulated
Transport hazard class(es)		
Not regulated	Not regulated	Not regulated
Packing group		
Not regulated	Not regulated	Not regulated
Environmental hazards		
Not regulated	Not regulated	Not regulated

Special transport precautions

Overland transport (JT/T 617)

Not regulated

Transport by sea (IMDG)

Not regulated

Air transport (IATA)

Not regulated

SECTION 15 Regulatory information

New Chemical Substance Environmental Management Registration Measures (MEE Order 12 of 2020)

Inventory of Existing Chemical Substances in China (IECSC)	Contains listed substance(s) Ethanol, 2-[2-(2-methoxyethoxy)ethoxy]-, triester with boric acid (CAS No. 30989-05-0) 2,5,8,11-Tetraoxatridecan-13-ol (CAS No. 23783-42-8) Ethanol, 2-[2-(2-methoxyethoxy)ethoxy]- (CAS No. 112-35-6) Diisopropanolamine (CAS No. 110-97-4)
Regulations on the Safety Management of Hazardous Chemicals	Not included
Law of the People's Republic of China on the Prevention and Control of Occupational Diseases	Not included
Directory or list of other domestic regulations	Not included

SECTION 16 Other information

SDS CN (GB/T 17519-2013)

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