BRAKE FLUID DOT 5.1

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878
SDS Reference Number: 220055 – 220069
Issue date: 24/06/2025 Revision date: 24/06/2025 Version: 1.0

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

1.1. Product identifier

Product form : Mixture
Product name : BRAKE FLUID DOT 5.1
Product code : 220055 – 220069
Product group : Trade product

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

Relevant identified uses

Intended for general public
Main use category : Professional use,Consumer use
Use of the substance/mixture : Brake fluid

1.3. Details of the supplier of the safety data sheet

UNIL LUBRICANTS NV
Bergensesteenweg 713
BE 1600 Sint - Pieters - Leeuw
Belgique-Belgie
T 0032 02 365 02 00
info@unil.com, www.unil.be

1.4. Emergency telephone number

Country/Area	Organisation/Company	Address	Emergency number	Comment
United Kingdom	National Poisons Information Service (Cardiff Centre) University Hospital Llandough	Penlan Road CF64 2XX	0344 892 0111	Only for healthcare professionals

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Repr. 2 H361fd
Full text of hazard classes, H- and EUH-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

Signal word (CLP) : Warning
Contains : tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate
Hazard statements (CLP) : H361fd - Suspected of damaging fertility. 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.
P201 - Obtain special instructions before use.
P280 - Wear protective gloves, protective clothing, eye protection, face protection.
P308+P313 - IF exposed or concerned: Get medical advice/attention.

		P405 - Store locked up. P501 - Dispose of contents and container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.
EUH-statements	:	EUH208 - Contains Dihydro-3-(tetrapropenyl)furan-2,5-dione. May produce an allergic reaction.
Child-resistant fastening	:	Not applicable
Tactile warning	:	Applicable

2.3. Other hazards

Contains no PBT and/or vPvB substances ≥ 0.1% assessed in accordance with REACH Annex XIII

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or substance(s) are not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

SECTION 3: Composition/information on ingredients

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 REACH-no: 01-2119462824-33	≥ 80	Repr. 2, H361fd
Dihydro-3-(tetrapropenyl)furan-2,5-dione	CAS-No.: 26544-38-7 EC-No.: 247-781-6 REACH-no: 01-2119979080-37	0,01 – 0,1	Eye Irrit. 2, H319 Skin Sens. 1A, H317 Aquatic Chronic 4, H413

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

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	:	Concerning personal protective equipment to use, see section 8. Never give anything by mouth to an unconscious person. In all cases of doubt, or when symptoms persist, seek medical attention. If possible, show the doctor this safety data sheet. Failing this, show the doctor the packaging or label.
First-aid measures after inhalation	:	Remove person to fresh air and keep comfortable for breathing. Obtain medical attention if breathing difficulty persists.
First-aid measures after skin contact	:	Remove contaminated clothing. Wash contaminated clothing before reuse. Gently wash with plenty of soap and water. Take victim to a doctor if irritation persists.
First-aid measures after eye contact	:	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Consult an ophtalmologist if irritation persists.
First-aid measures after ingestion	:	Rinse mouth out with water. Do not induce vomiting. Get medical advice/attention.

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

Symptoms/effects after inhalation	:	None known.
Symptoms/effects after skin contact	:	May cause an allergic skin reaction. Redness.
Symptoms/effects after eye contact	:	May cause eye irritation. Redness.
Symptoms/effects after ingestion	:	Abdominal pain, nausea. Vomiting. Diarrhea.
Chronic symptoms	:	Suspected of damaging fertility. Suspected of damaging the unborn child.

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

Treat symptomatically. Seek medical advice (show the label where possible). If possible show this sheet, if not available show packaging or label.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	:	Carbon dioxide. Powder. Alcohol resistant foam. Water spray.
Unsuitable extinguishing media	:	Strong water jet.

5.2. Special hazards arising from the substance or mixture

Fire hazard	:	Not flammable.
Explosion hazard	:	Heating will cause rise in pressure with risk of bursting.
Hazardous decomposition products in case of fire	:	Incomplete combustion releases dangerous carbon monoxide, carbon dioxide and other toxic gases.

5.3. Advice for firefighters

Precautionary measures fire	:	Evacuate area.
Firefighting instructions	:	Use water spray or fog for cooling exposed containers.
Protection during firefighting	:	Do not enter fire area without proper protective equipment, including respiratory protection. Complete protective clothing. Self-contained breathing apparatus.
Other information	:	Contain the extinguishing fluids by bunding. Do not dispose of fire-fighting water in the environment. Do not allow run-off from fire-fighting to enter drains or water courses. Dispose in a safe manner in accordance with local/national regulations.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	:	Evacuate unnecessary personnel. Keep upwind. Provide adequate ventilation. Concerning personal protective equipment to use, see section 8. Do not breathe vapours. Avoid all contact with skin, eyes, or clothing.

For emergency responders

Protective equipment	:	Concerning personal protective equipment to use, see section 8.

6.2. Environmental precautions

Do not allow material to contaminate surface water system. Do not allow product to spread into the environment. Do not allow to enter drains or water courses. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment	:	Stop leak if safe to do so. Dike for recovery or absorb with appropriate material.
Methods for cleaning up	:	Small quantities of liquid spill: take up in non-combustible absorbent material and shovel into container for disposal. Recover large spills by pumping (use an explosion proof or hand pump). Collect all waste in suitable and labelled containers and dispose according to local legislation. Concerning disposal elimination after cleaning, see section 13. This material and its container must be disposed of in a safe way, and as per local legislation.

6.4. Reference to other sections

See Section 8. See Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	:	Ensure good ventilation of the work station. Wear suitable protective clothing. Concerning personal protective equipment to use, see section 8. Do not breathe vapours. Do not get in eyes, on skin, or on clothing. Take any precaution to avoid mixing with Incompatible materials. Avoid discharge to the environment. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

Hygiene measures	:	Handle in accordance with good industrial hygiene and safety practice. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Do not eat, drink or smoke when using this product. Keep away from food, drink and animal feeding stuffs. Take off immediately all contaminated clothing and wash it before reuse. Separate working clothes from town clothes. Launder separately.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures	:	Install a retention tank.
Storage conditions	:	Store locked up. Store in dry, cool, well-ventilated area. Store in tightly closed containers. See Section 10. Containers which are opened should be properly resealed and kept upright to prevent leakage.
Incompatible materials	:	Strong acids. Strong bases. Oxidation agents. Refer to Section 10 on Incompatible Materials.
Heat and ignition sources	:	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Special rules on packaging	:	correctly labelled. Tactile warning.
Packaging materials	:	Original packaging.

7.3. Specific end use(s)

Brake fluids.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Appropriate engineering controls

Appropriate engineering controls:
Ensure that there is a suitable ventilation system. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. SECTION 7.

Personal protection equipment

Personal protective equipment symbol(s):



Eye and face protection

Eye protection:
If there is a risk of liquid being splashed or of vapour being released. Use eye protection according to EN 166, designed to protect against liquid splashes. Safety glasses with side shields

Skin protection

Skin and body protection:
Wear suitable protective clothing

Hand protection:
In case of repeated or prolonged contact wear gloves. Chemical resistant gloves (according to European standard NF ISO 374-1 or equivalent). Choosing the proper glove is a decision that depends not only on the type of material, but also on other quality features, which differ for each manufacturer. Time of penetration is to be checked with the glove producer

Hand protection					
Type	**Material**	**Permeation**	**Thickness (mm)**	**Penetration**	**Standard**
Reusable gloves	Nitrile rubber (NBR)	6 (> 480 minutes)	>0.3		EN ISO 374

Respiratory protection

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment. Half-face mask (DIN EN 140). full face mask (DIN EN 136). Filter type : A (EN 141). Refer to the recommendations of the supplier. EN 137

Thermal hazards

Thermal hazard protection:

None under normal conditions. Wear proper protective equipment.

Environmental exposure controls

Environmental exposure controls:

Avoid release to the environment. Ensure all national/local regulations are observed.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Colour	:	amber.
Odour	:	Not available
Odour threshold	:	Not available
Melting point	:	Not available
Freezing point	:	< -50 °C
Boiling point	:	> 260 °C
Flammability	:	Not available
Lower explosion limit	:	Not available
Upper explosion limit	:	Not available
Flash point	:	Not available
Auto-ignition temperature	:	> 300 °C [DIN 51794]
Decomposition temperature	:	360 °C
pH	:	7 – 10,5
Viscosity, kinematic	:	15 mm²/s (20 °C)
Solubility	:	Not available
Partition coefficient n-octanol/water (Log Kow)	:	Not available
Vapour pressure	:	Not available
Vapour pressure at 50°C	:	Not available
Density	:	1020 – 1090 kg/m³ (20 °C)
Relative density	:	1,02 – 1,09 (20°C)
Relative vapour density at 20°C	:	Not available
Particle characteristics	:	Not applicable

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. See Section 7.

10.5. Incompatible materials

Strong oxidizing agents. Strong acids. Strong bases. See Section 7.

10.6. Hazardous decomposition products

Section. 5.2.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (oral) : Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (dermal) : Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (inhalation) : Not classified (Based on available data, the classification criteria are not met)

tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate (30989-05-0)	
LD50 oral rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity)
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), Guideline: EU Method B.3 (Acute Toxicity (Dermal))

Dihydro-3-(tetrapropenyl)furan-2,5-dione (26544-38-7)	
LD50 oral rat	2900 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 423 (Acute Oral toxicity - Acute Toxic Class Method), 95% CL: 2 - 4
LD50 dermal rat	> 2000 mg/kg bodyweight
LD50 dermal rabbit	6200 – 7500 mg/kg
LC50 Inhalation - Rat (Dust/Mist)	5,3 mg/l/4h

Skin corrosion/irritation : Not classified (Based on available data, the classification criteria are not met)
pH: 7 – 10,5
Serious eye damage/irritation : Not classified (Based on available data, the classification criteria are not met)
pH: 7 – 10,5
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 fertility. Suspected of damaging the unborn child.
STOT-single exposure : Not classified (Based on available data, the classification criteria are not met)
STOT-repeated exposure : Not classified (Based on available data, the classification criteria are not met)
Additional information : May cause damage to organs through prolonged or repeated exposure.

tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate (30989-05-0)	
NOAEL (oral, rat, 90 days)	≥ 1000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents), Guideline: EU Method B.26 (Sub-Chronic Oral Toxicity Test: Repeated Dose 90-Day Oral Toxicity Study in Rodents), Guideline: EPA OPPTS 870.3100 (90-Day Oral Toxicity in Rodents)

Dihydro-3-(tetrapropenyl)furan-2,5-dione (26544-38-7)	
NOAEL (oral, rat, 90 days)	50 mg/kg bodyweight Animal: rat, Guideline: other:OECD 421, Guideline: other:EPA OPPTS 870.3500

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

BRAKE FLUID DOT 5.1	
Viscosity, kinematic	15 mm²/s (20 °C)

Dihydro-3-(tetrapropenyl)furan-2,5-dione (26544-38-7)	
Viscosity, kinematic	428,287 mm²/s

11.2. Information on other hazards

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Hazardous to the aquatic environment, short–term (acute) : Not classified (Based on available data, the classification criteria are not met)

Hazardous to the aquatic environment, long–term (chronic) : Not classified (Based on available data, the classification criteria are not met)

tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate (30989-05-0)	
LC50 - Fish [1]	> 222,2 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
LC50 - Fish [2]	> 1010 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
LC50 - Other aquatic organisms [1]	> 222,4 mg/l [Pseudokirchneriella subcapitata]
EC50 - Crustacea [1]	> 211,2 mg/l Test organisms (species): Daphnia magna
EC50 - Crustacea [2]	> 960 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	> 224,4 mg/l Test organisms (species): other:Raphidocelis subcapitata (new name: Pseudokirchneriella subcapitata)
EC50 72h - Algae [2]	> 1020 mg/l Test organisms (species): other:Raphidocelis subcapitata (new name: Pseudokirchneriella subcapitata)

Dihydro-3-(tetrapropenyl)furan-2,5-dione (26544-38-7)	
LC50 - Fish [1]	> 100 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
EC50 - Crustacea [1]	> 100 mg/l
EC50 - Other aquatic organisms [1]	800 mg/l (3h)
EC50 96h - Algae [1]	110 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
EC50 96h - Algae [2]	160 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)

12.2. Persistence and degradability

BRAKE FLUID DOT 5.1	
Persistence and degradability	Rapidly degradable

tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate (30989-05-0)	
Persistence and degradability	Readily biodegradable.
Biodegradation	> 70 % (10d; OCDE 301A)

Dihydro-3-(tetrapropenyl)furan-2,5-dione (26544-38-7)	
Persistence and degradability	Not readily biodegradable.
Biodegradation	9,9 % (28d; OECD301D)

12.3. Bioaccumulative potential

tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate (30989-05-0)	
Partition coefficient n-octanol/water (Log Pow)	-4,37 (QSAR)
Bioaccumulative potential	Bioaccumulation unlikely.

Dihydro-3-(tetrapropenyl)furan-2,5-dione (26544-38-7)	
Partition coefficient n-octanol/water (Log Kow)	≥ 4,39
Bioaccumulative potential	Low bioaccumulation potential.

12.4. Mobility in soil

Dihydro-3-(tetrapropenyl)furan-2,5-dione (26544-38-7)	
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	2,92

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Dispose in a safe manner in accordance with local/national regulations.

Product/Packaging disposal recommendations : Avoid release to the environment. Container remains hazardous when empty. Continue to observe all precautions. Recycle or dispose of in compliance with current legislation. Recycling is preferred to disposal or incineration. If recycling is not possible, eliminate in accordance with local valid waste disposal regulations. Refer to manufacturer/supplier for information on recovery/recycling. See Section 7. Dispose of contaminated materials in accordance with current regulations.

Ecological waste information : Avoid release to the environment.

European List of Waste (LoW, EC 2000/532) : European waste catalogue (EWC) Waste code 15 01 10*: packaging containing residues of or contaminated by dangerous substances

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
Not regulated for transport				
14.2. UN proper shipping name				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.3. Transport hazard class(es)				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

ADR	IMDG	IATA	ADN	RID
14.4. Packing group				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.5. Environmental hazards				
Dangerous for the environment: No	Dangerous for the environment: No Marine pollutant: No	Dangerous for the environment: No	Dangerous for the environment: No	Dangerous for the environment: No
No supplementary information available				

14.6. Special precautions for user

Overland transport

No data available

Transport by sea

No data available

Air transport

No data available

Inland waterway transport

No data available

Rail transport

No data available

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

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

EU-Regulations

REACH Annex XVII (Restriction List)

Contains no substance(s) listed on REACH Annex XVII (Restriction Conditions)

REACH Annex XIV (Authorisation List)

Contains no substance(s) listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Contains no substance(s) listed on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

Contains no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)

POP Regulation (Persistent Organic Pollutants)

Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

Ozone Regulation (1005/2009)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 1005/2009 on substances that deplete the ozone layer)

Dual-Use Regulation (428/2009)

Contains no substance subject to the COUNCIL REGULATION (EC) No 428/2009 of 5 May 2009 setting up a Community regime for the control of exports, transfer, brokering and transit of dual-use items.

Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

Full text of H- and EUH-statements:	
Aquatic Chronic 4	Hazardous to the aquatic environment – Chronic Hazard, Category 4
EUH208	Contains Dihydro-3-(tetrapropenyl)furan-2,5-dione. May produce an allergic reaction.
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child.
H413	May cause long lasting harmful effects to aquatic life.
Repr. 2	Reproductive toxicity, Category 2
Skin Sens. 1A	Skin sensitisation, category 1A

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:		
Repr. 2	H361fd	Calculation method

Safety Data Sheet (SDS), EU

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.