Brake Fluid DOT 4

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878
Reference number: 22004
Issue date: 16/06/2023 Revision date: 16/06/2023 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 4
Product code	:	7833
Type of product	:	Hydraulic oil
Product group	:	Trade product

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

1.2.1. Relevant identified uses

Intended for general public

Main use category	:	Professional use,Consumer use
Function or use category	:	Hydraulic fluids and additives

1.2.2. Uses advised against

Restrictions on use	:	Hydraulic Fluids

1.3. Details of the supplier of the safety data sheet

Supplier
Morris Lubricants
Castle Foregate
SY1 2EL Shrewsbury – Shropshire
United Kingdom
T +44 (0) 1743 232200
sds@morris-lubricants.co.uk

NZ Distributor:
Oil Distributors Ltd t/a AKTRON
14 Railway Road
Rangiora 7400
Ph: 0800 70 10 10
admin@aktron.co.nz
ERMA Approval Code: HSR002605

1.4. Emergency telephone number

Emergency number: National Poison Control Centre 0800 764 766

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Serious eye damage/eye irritation, Category 2	H319
Reproductive toxicity, Category 2	H361d

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

Adverse physicochemical, human health and environmental effects

Suspected of damaging fertility or the unborn child. Causes serious eye irritation.

2.2. Label elements

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

Hazard pictograms (CLP) :

GHS07 GHS08

Signal word (CLP)	:	Warning
Contains	:	Tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate
Hazard statements (CLP)	:	H319 - Causes serious eye irritation. 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.
P264 - Wash hands thoroughly after handling.
P301+P310 - IF SWALLOWED: Immediately call a doctor, a POISON CENTER.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P501 - Dispose of contents and container to an approved waste disposal plant.

2.3. Other hazards

Contains no PBT/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 is 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

3.1. Substances

Not applicable

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	≥ 10 – < 50	Repr. 2, H361d
2-[2-(2-BUTOXYETHOXY)ETHOXY]ETHANOL	CAS-No.: 143-22-6 EC-No.: 205-592-6 EC Index-No.: 603-183-00-0 REACH-no: 01-2119531322-53	≥ 10 – < 30	Eye Dam. 1, H318
Butyl Polyglycol	CAS-No.: 9004-77-7 EC-No.: 500-012-0 REACH-no: 01-2119475115-41	≥ 5 – < 30	Eye Irrit. 2, H319
2,2'-OXYBISETHANOL substance with national workplace exposure limit(s) (GB)	CAS-No.: 111-46-6 EC-No.: 203-872-2 EC Index-No.: 603-140-00-6 REACH-no: 01-2119457857-21	< 10	Acute Tox. 4 (Oral), H302 (ATE=500 mg/kg bodyweight)
2-(2-butoxyethoxy)ethanol substance with national workplace exposure limit(s) (GB, NO); substance with a Community workplace exposure limit	CAS-No.: 112-34-5 EC-No.: 203-961-6 EC Index-No.: 603-096-00-8 REACH-no: 01-2119475104-44	< 5	Eye Irrit. 2, H319
2-(2-METHOXYETHOXY)ETHANOL substance with national workplace exposure limit(s) (GB, NO); substance with a Community workplace exposure limit	CAS-No.: 111-77-3 EC-No.: 203-906-6 EC Index-No.: 603-107-00-6 REACH-no: 01-2119475100-52	< 5	Repr. 2, H361d

Specific concentration limits:		
Name	**Product identifier**	**Specific concentration limits**
2-[2-(2-BUTOXYETHOXY)ETHOXY]ETHANOL	CAS-No.: 143-22-6 EC-No.: 205-592-6 EC Index-No.: 603-183-00-0 REACH-no: 01-2119531322-53	(20 ≤C < 30) Eye Irrit. 2, H319 (30 ≤C ≤ 100) Eye Dam. 1, H318
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	(3 ≤C ≤ 100) Repr. 1B, H360D

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 : IF exposed or concerned: Get medical advice/attention.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.

First-aid measures after skin contact : Wash skin with plenty of water.

First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell. Drink plenty of water. If swallowed, seek medical advice immediately and show this container or label. Do NOT induce vomiting. Have the victim lean forward with head down to avoid inhalation of- or choking on vomited material.
If medical attention is delayed, give adults 90-120 ml hard liquor such as 40% v/v spirits. Give children proportionately less at a rate of 2ml/kg body weight.

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

Symptoms/effects after eye contact : Eye irritation.

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. Dry powder. Foam. Carbon dioxide.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Avoid contact with skin and eyes.

6.1.1. For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.
Emergency procedures : Ventilate spillage area. Avoid contact with skin and eyes.

6.1.2. 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".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Contain large spillage with sand or earth.
Methods for cleaning up : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.
Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to 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 personal protective equipment. Avoid contact with skin and eyes.
Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store locked up. Store in a well-ventilated place. Keep cool.
Storage temperature : 15 – 30 °C

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

2-(2-butoxyethoxy)ethanol (112-34-5)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	2-(2-Butoxyethoxy)ethanol
IOEL TWA	67.5 mg/m³
IOEL TWA [ppm]	10 ppm
IOEL STEL	101.2 mg/m³
IOEL STEL [ppm]	15 ppm
Regulatory reference	COMMISSION DIRECTIVE 2006/15/EC
United Kingdom - Occupational Exposure Limits	
Local name	2-(2-Butoxyethoxy)ethanol
WEL TWA (OEL TWA) [1]	67.5 mg/m³

2-(2-butoxyethoxy)ethanol (112-34-5)	
WEL TWA (OEL TWA) [2]	10 ppm
WEL STEL (OEL STEL)	101.2 mg/m³
WEL STEL (OEL STEL) [ppm]	15 ppm
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

2,2'-OXYBISETHANOL (111-46-6)	
United Kingdom - Occupational Exposure Limits	
Local name	2,2'-Oxydiethanol
WEL TWA (OEL TWA) [1]	101 mg/m³
WEL TWA (OEL TWA) [2]	23 ppm
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

2-(2-METHOXYETHOXY)ETHANOL (111-77-3)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	2-(2-Methoxyethoxy)ethanol
IOEL TWA	50.1 mg/m³
IOEL TWA [ppm]	10 ppm
Remark	Skin
Regulatory reference	COMMISSION DIRECTIVE 2006/15/EC
United Kingdom - Occupational Exposure Limits	
Local name	2-(2-Methoxyethoxy) ethanol
WEL TWA (OEL TWA) [1]	50.1 mg/m³
WEL TWA (OEL TWA) [2]	10 ppm
Remark	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)
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

No additional information available

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:
Ensure good ventilation of the work station.

8.2.2. Personal protection equipment

Personal protective equipment symbol(s):

8.2.2.1. Eye and face protection

Eye protection:
Safety glasses

Eye protection			
Type	**Field of application**	**Characteristics**	**Standard**
Safety glasses	Droplet	With side shields	EN 166

8.2.2.2. Skin protection

Skin and body protection:
Wear suitable protective clothing

Hand protection:
Protective gloves

Hand protection					
Type	**Material**	**Permeation**	**Thickness (mm)**	**Penetration**	**Standard**
Disposable gloves	Butyl rubber	6 (> 480 minutes)	0.3		EN 374-2, EN 374-3, EN 388
Disposable gloves	Nitrile rubber (NBR)	6 (> 480 minutes)	0.2		EN 374-2, EN 374-3, EN 388

8.2.2.3. Respiratory protection

Respiratory protection:
[In case of inadequate ventilation] wear respiratory protection.

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Environmental exposure controls:
Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Colour	:	Not available
Appearance	:	Clear liquid.
Odour	:	Not available
Odour threshold	:	Not available
Melting point	:	≥ 50 °C
Freezing point	:	Not available
Boiling point	:	≥ 260 °C
Flammability	:	Non flammable.
Explosive limits	:	Not available
Lower explosion limit	:	Not available
Upper explosion limit	:	Not available

Flash point	:	≥ 100 °C PMCC
Auto-ignition temperature	:	≥ 280
Decomposition temperature	:	300 °C
pH	:	7 – 10.5
Viscosity, kinematic @ 40°C	:	Not available
Solubility	:	Soluble in water.
Partition coefficient n-octanol/water (Log Kow)	:	Not available
Partition coefficient n-octanol/water (Log Pow)	:	1.5
Vapour pressure	:	1 mbar
Vapour pressure at 50°C	:	Not available
Density	:	Not available
Relative density	:	1.02 – 1.07
Relative vapour density at 20°C	:	Not available
Particle characteristics	:	Not applicable

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

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

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

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

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

2-(2-butoxyethoxy)ethanol (112-34-5)	
LD50 dermal rabbit	2764 mg/kg bodyweight Animal: rabbit, Animal sex: male, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), 95% CL: 2090 - 3645

2-[2-(2-BUTOXYETHOXY)ETHOXY]ETHANOL (143-22-6)	
LD50 oral rat	> 5000 mg/kg bodyweight Animal: rat, Guideline: EU Method B.1 bis (Acute Oral Toxicity - Fixed Dose Procedure)

2-[2-(2-BUTOXYETHOXY)ETHOXY]ETHANOL (143-22-6)	
LD50 dermal rabbit	3540 mg/kg bodyweight Animal: rabbit, Animal sex: male, Remarks on results: other:, 95% CL: 1050 - 11800

2-(2-METHOXYETHOXY)ETHANOL (111-77-3)	
LD50 dermal rabbit	9404 mg/kg bodyweight Animal: rabbit, Animal sex: male, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), 95% CL: 6696 - 13212

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), Guideline: EU Method B.1 (Acute Toxicity (Oral))
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), Guideline: EU Method B.3 (Acute Toxicity (Dermal)), Remarks on results: other:

Butyl Polyglycol (9004-77-7)	
LD50 oral rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity)
LD50 dermal rabbit	3540 mg/kg bodyweight Animal: rabbit, Animal sex: male, 95% CL: 1050 - 11800

Skin corrosion/irritation : Not classified
pH: 7 – 10.5

2-[2-(2-BUTOXYETHOXY)ETHOXY]ETHANOL (143-22-6)	
pH	7 Temp.: 20 °C Concentration:]70 vol%,80 vol%] Remarks on result: 'other:'

Serious eye damage/irritation : Causes serious eye irritation.
pH: 7 – 10.5

2-[2-(2-BUTOXYETHOXY)ETHOXY]ETHANOL (143-22-6)	
pH	7 Temp.: 20 °C Concentration:]70 vol%,80 vol%] Remarks on result: 'other:'

Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified

2,2'-OXYBISETHANOL (111-46-6)	
NOAEL (chronic, oral, animal/male, 2 years)	1210 mg/kg bodyweight Animal: rat, Animal sex: male
NOAEL (chronic, oral, animal/female, 2 years)	1160 mg/kg bodyweight Animal: rat, Animal sex: female

Reproductive toxicity : Suspected of damaging the unborn child.
STOT-single exposure : Not classified
STOT-repeated exposure : Not classified

2-(2-butoxyethoxy)ethanol (112-34-5)	
NOAEL (oral, rat, 90 days)	250 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study 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)

2-[2-(2-BUTOXYETHOXY)ETHOXY]ETHANOL (143-22-6)	
LOAEL (oral, rat, 90 days)	1200 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)
NOAEL (oral, rat, 90 days)	400 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)
NOAEL (dermal, rat/rabbit, 90 days)	4000 mg/kg bodyweight Animal: rat, Guideline: other:

2,2'-OXYBISETHANOL (111-46-6)	
LOAEL (oral, rat, 90 days)	40000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity Study in Rodents)

2-(2-METHOXYETHOXY)ETHANOL (111-77-3)	
LOAEL (oral, rat, 90 days)	1800 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity Study in Rodents)
NOAEL (oral, rat, 90 days)	900 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity Study in Rodents), Remarks on results: other:
NOAEC (inhalation, rat, vapour, 90 days)	> 1.06 mg/l air Animal: rat, Guideline: OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day Study)

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 Study 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)

Butyl Polyglycol (9004-77-7)	
LOAEL (oral, rat, 90 days)	1200 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)
NOAEL (oral, rat, 90 days)	400 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)

Aspiration hazard : Not classified

2-(2-butoxyethoxy)ethanol (112-34-5)	
Viscosity, kinematic @ 40°C	≈ 6.794 mm²/s

2-[2-(2-BUTOXYETHOXY)ETHOXY]ETHANOL (143-22-6)	
Viscosity, kinematic @ 40°C	9.2 mm²/s Temp.: 'other:' Parameter: 'kinematic viscosity (in mm²/s)' Remarks on result: 'other:'

Butyl Polyglycol (9004-77-7)	
Viscosity, kinematic @ 40°C	9.2 mm²/s Temp.: 'other:' Parameter: 'kinematic viscosity (in mm²/s)' Remarks on result: 'other:'

11.2. Information on other hazards

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

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

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

Not rapidly degradable

2-(2-butoxyethoxy)ethanol (112-34-5)	
LC50 - Fish [1]	1300 mg/l Test organisms (species): Lepomis macrochirus
EC50 - Crustacea [1]	> 100 mg/l Test organisms (species): Daphnia magna

2-(2-butoxyethoxy)ethanol (112-34-5)	
EC50 96h - Algae [1]	> 100 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)

2-[2-(2-BUTOXYETHOXY)ETHOXY]ETHANOL (143-22-6)	
LC50 - Fish [1]	2200 – 4600 mg/l Test organisms (species): Leuciscus idus
LC50 - Fish [2]	2400 mg/l Test organisms (species): Pimephales promelas
EC50 72h - Algae [1]	1589 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
EC50 72h - Algae [2]	3211 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)

2,2'-OXYBISETHANOL (111-46-6)	
LC50 - Fish [1]	75200 mg/l Test organisms (species): Pimephales promelas
EC50 96h - Algae [1]	6500 – 13000 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
EC50 96h - Algae [2]	9362 mg/l Test organisms (species): other:
NOEC (chronic)	≥ 1000 mg/l Test organisms (species): Americamysis bahia (previous name: Mysidopsis bahia) Duration: '23 d'

2-(2-METHOXYETHOXY)ETHANOL (111-77-3)	
LC50 - Fish [1]	5741 mg/l Test organisms (species): Pimephales promelas
EC50 - Crustacea [1]	1192 mg/l Test organisms (species): Daphnia magna
EC50 96h - Algae [1]	> 1000 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)

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)
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:
EC50 72h - Algae [2]	> 1020 mg/l Test organisms (species): other:

Butyl Polyglycol (9004-77-7)	
LC50 - Fish [1]	> 1800 mg/l Test organisms (species): other:
EC50 - Crustacea [1]	> 3200 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	391 mg/l Test organisms (species): Skeletonema costatum

12.2. Persistence and degradability

Brake Fluid DOT 4	
Persistence and degradability	Product is biodegradable.

12.3. Bioaccumulative potential

Brake Fluid DOT 4	
Partition coefficient n-octanol/water (Log Pow)	1.5

12.4. Mobility in soil

Brake Fluid DOT 4	
Additional information	soluble in water

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 of contents/container in accordance with licensed collector's sorting instructions.
European List of Waste (LoW) code : 16 01 13* - brake fluids
HP Code : HP4 - "Irritant – skin irritation and eye damage:" waste which on application can cause skin irritation or damage to the eye.

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	Not regulated	Not regulated	Not regulated	Not regulated
14.2. UN proper shipping name				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.3. Transport hazard class(es)				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.4. Packing group				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.5. Environmental hazards				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
No supplementary information available				

14.6. Special precautions for user

Overland transport
Not regulated

Transport by sea
Not regulated

Air transport

Not regulated

Inland waterway transport

Not regulated

Rail transport

Not regulated

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

15.1.1. 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)

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)

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Abbreviations and acronyms:	
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	Biological limit value

Abbreviations and acronyms:	
BOD	Biochemical oxygen demand (BOD)
COD	Chemical oxygen demand (COD)
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
EN	European Standard
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
VOC	Volatile Organic Compounds
CAS-No.	Chemical Abstract Service number
N.O.S.	Not Otherwise Specified
vPvB	Very Persistent and Very Bioaccumulative
ED	Endocrine disrupting properties

Full text of H- and EUH-statements:	
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
H302	Harmful if swallowed.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H360D	May damage the unborn child.

Full text of H- and EUH-statements:	
H361d	Suspected of damaging the unborn child.
Repr. 1B	Reproductive toxicity, Category 1B
Repr. 2	Reproductive toxicity, Category 2

The classification complies with : ATP 12

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.