

according to Regulation (EC) No 1907/2006

HIGHTEC Brake Fluid DOT 4

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

1.1. Product identifier

HIGHTEC Brake Fluid DOT 4

UFI: SE5E-XQW6-000D-NJ0E

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

Use of the substance/mixture

Brake fluid

1.3. Details of the supplier of the safety data sheet

Company name:	ROWE Mineralölwerk GmbH	
Street:	Langgewann 101	
Place:	D-67547 Worms	
Telephone:	+49 (0)6241 5906-0	Telefax: +49 (0)6241 5906-999
e-mail:	info@rowe-oil.com	
Internet:	www.rowe-oil.com	
Responsible Department:	sdb@rowe-oil.com	

1.4. Emergency telephone number:

Giftnotruf Mainz (DE; E) +49 (0)6131-19240

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No. 1272/2008

Hazard categories:
 Reproductive toxicity: Repr. 2
 Hazard Statements:
 Suspected of damaging the unborn child.

2.2. Label elements

Regulation (EC) No. 1272/2008

Hazard components for labelling

Tris [2- [2- (2-methoxyethoxy) ethoxy] ethyl] orthoborate

Signal word: Warning

Pictograms:



Hazard statements

H361d Suspected of damaging the unborn child.

Precautionary statements

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P405	Store locked up.
P501	Dispose of contents/container to of the disposal according to local regulations.

2.3. Other hazards

No information available.

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SECTION 3: Composition/information on ingredients
3.2. Mixtures
Hazardous components

CAS No	Chemical name	Quantity
	EC No	
	Index No	
	REACH No	
	GHS Classification	
30989-05-0	Tris [2- [2- (2-methoxyethoxy) ethoxy] ethyl] orthoborate	30 - <50 %
	250-418-4	
	01-2119462824-33	
	Repr. 2; H361d	
	Reaction mass of 2- (2- (2-butoxyethoxy) ethoxy) ethanol and 3,6,9,12-tetraoxahexadecan-1-ol	10 - <14 %
	907-996-4	
	01-2119531322-53	
	Eye Dam. 1; H318	
111-46-6	2,2' -oxybisethanol	>1 - <10 %
	203-872-2	
	01-2119457857-21	
	Acute Tox. 4; H302	
110-97-4	1,1'-iminodipropen-2-ol	>1 - <10 %
	203-820-9	
	603-083-00-7	
	01-2119475444-34	
	Eye Irrit. 2; H319	

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

SECTION 4: First aid measures
4.1. Description of first aid measures
After inhalation

Provide fresh air. Medical treatment necessary.

After contact with skin

Wash with plenty of water. Immediately remove any contaminated clothing, shoes or stockings. Medical treatment necessary.

After contact with eyes

After eye contact: Rinse immediately carefully and thoroughly with eye-bath or water. Consult an ophthalmologist.

After ingestion

If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention.

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

No information available.

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

Co-ordinate fire-fighting measures to the fire surroundings.

5.2. Special hazards arising from the substance or mixture

Non-flammable.

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5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus.

Additional information

Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately.
Do not allow entering drains or surface water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Provide adequate ventilation. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment.

6.2. Environmental precautions

Do not allow to enter into surface water or drains.

6.4. Reference to other sections

Safe handling: see section 7
Personal protection equipment: see section 8
Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray.

Advice on protection against fire and explosion

No special fire protection measures are necessary.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed. Keep locked up. Store in a place accessible by authorized persons only. Provide adequate ventilation as well as local exhaust at critical locations.

Hints on joint storage

No special measures are necessary.

7.3. Specific end use(s)

Brake fluid

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

CAS No	Substance	ppm	mg/m ³	fib/cm ³	Category	Origin
111-46-6	2,2'-Oxydiethanol	23	100		TWA (8 h)	

8.2. Exposure controls



Appropriate engineering controls

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray.

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Protective and hygiene measures

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme.
Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat, drink, smoke, sniff.

Eye/face protection

Wear eye protection/face protection.

Hand protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Skin protection

Use of protective clothing.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	liquid
Colour:	yellow
Odour:	characteristic

	Test method
pH-Value (at 20 °C):	~ 8,5 FMVSS 116

Changes in the physical state

Melting point/freezing point:	not determined
Boiling point or initial boiling point and boiling range:	>260 °C FMVSS 116
Pour point:	< -70 °C
:	DIN 51583
Flash point:	>139 °C DIN EN ISO 2719

Flammability

Solid:	not applicable
Gas:	not applicable

Explosive properties

The product is not: Explosive.

Lower explosion limits:	1,5 vol. %
Upper explosion limits:	not determined
Auto-ignition temperature:	not determined DIN 51794

Self-ignition temperature

Gas:	>200 °C
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Decomposition temperature:	360 °C DSC
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Oxidizing properties

The product is not: oxidising.

Vapour pressure: (at 20 °C)	<1 hPa
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Density (at 20 °C):	~ 1,06 g/cm³ DIN 51757
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Water solubility: completely miscible
(at 20 °C)

Solubility in other solvents

not determined

Partition coefficient n-octanol/water: not applicable

Viscosity / kinematic: ~ 15-17 mm²/s FMVSS 116
(at 20 °C)

Relative vapour density: not determined

Evaporation rate: not determined

9.2. Other information

Solid content: not determined

The product is hygroscopic.

SECTION 10: Stability and reactivity

10.1. Reactivity

No hazardous reaction when handled and stored according to provisions.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

No known hazardous reactions.

10.4. Conditions to avoid

none

10.5. Incompatible materials

No information available.

10.6. Hazardous decomposition products

No known hazardous decomposition products.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
111-46-6	2,2'-oxybisethanol				
	oral	ATE mg/kg	500		
110-97-4	1,1'-iminodipropan-2-ol				
	oral	LD50 mg/kg	4765	Rat	

Irritation and corrosivity

not determined

Further information

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP]. Special hazards arising from the substance or mixture!

SECTION 12: Ecological information

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12.1. Toxicity

The product is not: Ecotoxic.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
110-97-4	1,1'-iminodipropan-2-ol					
	Acute fish toxicity	LC50 > 1000-2200 mg/l	96 h	Leuciscus idus		

12.2. Persistence and degradability

The product has not been tested.

12.3. Bioaccumulative potential

The product has not been tested.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
110-97-4	1,1'-iminodipropan-2-ol	-0,82

12.4. Mobility in soil

The product has not been tested.

12.5. Results of PBT and vPvB assessment

The product has not been tested.

12.6. Other adverse effects

No information available.

Further information

Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Do not allow to enter into surface water or drains. Dispose of waste according to applicable legislation.

List of Wastes Code - residues/unused products

160113 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; end-of-life vehicles from different means of transport (including off-road machinery) and wastes from dismantling of end-of-life vehicles and vehicle maintenance (except 13, 14, 16 06 and 16 08); brake fluids; hazardous waste

List of Wastes Code - used product

160113 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; end-of-life vehicles from different means of transport (including off-road machinery) and wastes from dismantling of end-of-life vehicles and vehicle maintenance (except 13, 14, 16 06 and 16 08); brake fluids; hazardous waste

Contaminated packaging

@1301.B130039 Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information

Land transport (ADR/RID)

- 14.1. UN number:** No dangerous good in sense of this transport regulation.
- 14.2. UN proper shipping name:** No dangerous good in sense of this transport regulation.
- 14.3. Transport hazard class(es):** No dangerous good in sense of this transport regulation.
- 14.4. Packing group:** No dangerous good in sense of this transport regulation.

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Inland waterways transport (ADN)

- 14.1. UN number:** No dangerous good in sense of this transport regulation.
- 14.2. UN proper shipping name:** No dangerous good in sense of this transport regulation.
- 14.3. Transport hazard class(es):** No dangerous good in sense of this transport regulation.
- 14.4. Packing group:** No dangerous good in sense of this transport regulation.

Marine transport (IMDG)

- 14.1. UN number:** No dangerous good in sense of this transport regulation.
- 14.2. UN proper shipping name:** No dangerous good in sense of this transport regulation.
- 14.3. Transport hazard class(es):** No dangerous good in sense of this transport regulation.
- 14.4. Packing group:** No dangerous good in sense of this transport regulation.

Air transport (ICAO-TI/IATA-DGR)

- 14.1. UN number:** No dangerous good in sense of this transport regulation.
- 14.2. UN proper shipping name:** No dangerous good in sense of this transport regulation.
- 14.3. Transport hazard class(es):** No dangerous good in sense of this transport regulation.
- 14.4. Packing group:** No dangerous good in sense of this transport regulation.

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

No dangerous good in sense of this transport regulation.

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

No dangerous good in sense of this transport regulation.

SECTION 15: Regulatory information

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

EU regulatory information

Restrictions on use (REACH, annex XVII):

Entry 3

Information according to 2012/18/EU (SEVESO III):

Not subject to 2012/18/EU (SEVESO III)

National regulatory information

Employment restrictions:

Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

Water hazard class (D):

1 - slightly hazardous to water

Additional information

Inventories for chemical substances

Switzerland: yes

15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Changes

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This data sheet contains changes from the previous version in section(s): 3.

Abbreviations and acronyms

- ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
 - IMDG: International Maritime Code for Dangerous Goods
 - IATA: International Air Transport Association
 - GHS: Globally Harmonized System of Classification and Labelling of Chemicals
 - EINECS: European Inventory of Existing Commercial Chemical Substances
 - ELINCS: European List of Notified Chemical Substances
 - CAS: Chemical Abstracts Service
 - LC50: Lethal concentration, 50%
 - LD50: Lethal dose, 50%
 - CLP: Classification, labelling and Packaging
 - REACH: Registration, Evaluation and Authorization of Chemicals
 - GHS: Globally Harmonised System of Classification, Labelling and Packaging of Chemicals
 - UN: United Nations
 - DNEL: Derived No Effect Level
 - DMEL: Derived Minimal Effect Level
 - PNEC: Predicted No Effect Concentration
 - ATE: Acute toxicity estimate
 - LL50: Lethal loading, 50%
 - EL50: Effect loading, 50%
 - EC50: Effective Concentration 50%
 - ErC50: Effective Concentration 50%, growth rate
 - NOEC: No Observed Effect Concentration
 - BCF: Bio-concentration factor
 - PBT: persistent, bioaccumulative, toxic
 - vPvB: very persistent, very bioaccumulative
 - RID: Regulations concerning the international carriage of dangerous goods by rail
 - ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures)
 - EmS: Emergency Schedules
 - MFAG: Medical First Aid Guide
 - ICAO: International Civil Aviation Organization
 - MARPOL: International Convention for the Prevention of Marine Pollution from Ships
 - IBC: Intermediate Bulk Container
 - SVHC: Substance of Very High Concern
- For abbreviations and acronyms, see table at <http://abbrev.esdscom.eu>

Classification for mixtures and used evaluation method according to Regulation (EC) No. 1272/2008 [CLP]

Classification	Classification procedure
Repr. 2; H361d	Calculation method

Relevant H and EUH statements (number and full text)

- H302 Harmful if swallowed.
- H318 Causes serious eye damage.
- H319 Causes serious eye irritation.
- H361d Suspected of damaging the unborn child.

Further Information

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights. The receiver of our product is singularly responsible for adhering to existing laws and regulations.

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(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)