Safety Data Sheet

according to Regulation (EC) No 1907/2006

HIGHTEC Brake Fluid DOT 4

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

1.1. Product identifier

HIGHTEC Brake Fluid DOT 4

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

Use of the substance/mixture

Hydraulic fluids

1.3. Details of the supplier of the safety data sheet

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

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

This mixture is not classified as hazardous in accordance with Regulation (EC) No. 1272/2008.

2.2. Label elements

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification according to Regulation (EC) No. 1272/2008 [CLP]			
	Reaktionsmasse aus 2-(2-(2- Butoxyethoxy)ethoxy)ethanol und 3,6,9,12-Tetraoxahexadecan-1-ol			>3 - <10 %
	907-996-4		01-2119531322-53	
	Eye Dam. 1; H318			
111-46-6	Diethylenglykool			>1 - <10 %
	203-872-2		01-2119457857-21	
	Acute Tox. 4, STOT RE 2; H302 H373			
110-97-4	1,1'-iminodipropan-2-ol, di-isopropanolamine			>1 - <3 %
	203-820-9	603-083-00-7		
	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

General information

Self-protection of the first aider

Change contaminated clothing.
Do not put any product-impregnated cleaning rags into your trouser pockets.

After inhalation

Provide fresh air. In case of inhalation of aerosols/spray mist/splash spots: Consult physician.
Avoid breathing dust/fume/gas/mist/vapours/spray. IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.

After contact with skin

Wash with plenty of water. Take off contaminated clothing and wash it before reuse. After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water and soap.
If skin irritation or rash occurs: Get medical advice/attention.

After contact with eyes

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.
Consult an ophthalmologist.

After ingestion

Rinse mouth immediately and drink plenty of water. Call a physician immediately.

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

No known symptoms to date.

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

Treat symptomatically. Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Co-ordinate fire-fighting measures to the fire surroundings. Carbon dioxide (CO2). Dry extinguishing powder. alcohol resistant foam. Water spray.

5.2. Special hazards arising from the substance or mixture

Non-flammable. Special exposure hazards arising from the substance itself, combustion products, resulting gases:
CO, NOx

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.
Wear suitable protective clothing.

6.2. Environmental precautions

Do not allow to enter into surface water or drains.

6.3. Methods and material for containment and cleaning up

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

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. No special handling instructions are necessary.

Advice on protection against fire and explosion

Keep away from combustible material.

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 exhaustion at critical locations. Keep container tightly closed and dry.

Hints on joint storage

No special measures are necessary.

7.3. Specific end use(s)

Hydraulic fluids

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

CAS No	Substance	ppm	mg/m³	fibres/ml	Category	Origin
111-46-6	2,2'-Oxydiethanol	23	101		TWA (8 h)	WEL

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.

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 or drink.
Avoid contact with skin and eyes.

Eye/face protection

Suitable eye protection: goggles. Wear eye/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. 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.
NBR (Nitrile rubber).; 0,4mm; 30min
Butyl rubber.; 0,7mm; 480min

Skin protection

Wear suitable protective clothing.

Respiratory protection

In case of inadequate ventilation wear respiratory protection. If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn. full mask (DIN EN 136).

Further regulations, limitations and legal requirements:
National regulations, Regulatory information, EU legislation

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):	7,5-9	FMVSS 116
Changes in the physical state		
Melting point:	not determined	
Initial boiling point and boiling range:	>260 °C	FMVSS 116
Setting point::	<-70 °C	DIN 51583
Flash point:	>139 °C	DIN EN ISO 2719
Flammability		
Solid:	not applicable	
Gas:	not applicable	
Lower explosion limits:	1,5 vol. %	
Upper explosion limits:	not determined	
Ignition temperature:		DIN 51794
Auto-ignition temperature		
Solid:	not applicable	
Gas:	>200 °C	
Decomposition temperature:	360 °C	DSC
Oxidizing properties		
Not oxidizing.		
Vapour pressure: (at 20 °C)	<1 hPa	
Density (at 20 °C):	1,055-1,075 g/cm³	DIN 51757
Water solubility: (at 20 °C)	completely miscible	
Solubility in other solvents		
not determined		
Partition coefficient:	not applicable	
Viscosity / kinematic: (at 20 °C)	15-17 mm²/s	FMVSS 116
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

This product is stable under normal conditions. Hazardous reactions are unlikely.

10.2. Chemical stability

Onset of decomposition at elevated temperatures (~360°C)

10.3. Possibility of hazardous reactions

This product is stable under normal conditions. Hazardous reactions are unlikely.

10.4. Conditions to avoid

not determined

10.5. Incompatible materials

not determined

10.6. Hazardous decomposition products

No special measures required when used in accordance with the instructions.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity

not determined

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

Irritation and corrosivity

not determined

Sensitising effects

not determined

Carcinogenic/mutagenic/toxic effects for reproduction

not determined

Additional information on tests

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

SECTION 12: Ecological information

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, di-isopropanolamine					
	Acute fish toxicity	LC50 > 1000-2200 mg/l	96 h	Leuciscus idus		

12.2. Persistence and degradability

Product is biodegradable. (90% / 15d)

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, di-isopropanolamine	-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

Advice on disposal

Do not allow to enter into surface water or drains. Dispose of waste according to applicable legislation. Send to a hazardous waste incinerator facility under observation of official regulations .

Waste disposal number of waste from 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

Waste disposal number of 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

Wash with plenty of water. Completely emptied packages can be recycled.

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.

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

2004/42/EC (VOC): 2,9 % (30,595 g/l)

National regulatory information

Employment restrictions: Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC).

Water contaminating class (D): 1 - slightly water contaminating

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

This data sheet contains changes from the previous version in section(s): 1.

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%

Relevant H and EUH statements (number and full text)

H302	Harmful if swallowed.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H373	May cause damage to organs through prolonged or repeated exposure.

Further Information

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

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