

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### HIGHTEC Brake Fluid DOT 4

Revision date: 19.01.2024

Product code: 25101

Page 1 of 10

## 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

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       |                               |
| Contact person: | Product Compliance      |                               |
| E-mail:         | sdb@rowe-oil.com        |                               |
| Internet:       | www.rowe-oil.com        |                               |

### 1.4. Emergency telephone number:

Ireland: Public (8am-10pm) +353 180 921 66, Healthcare Professionals +353 1809 2566 other Countries: Emergency CONTACT (24-Hour-Number): GBK GmbH +49 (0)6132-84463

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

 Regulation (EC) No 1272/2008  
 Repr. 2; H361d

Full text of hazard statements: see SECTION 16.

### 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

|           |   |
|-----------|---|
| P101      | If medical advice is needed, have product container or label at hand.                         |
| P102      | Keep out of reach of children.  |
| 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.

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**HIGHTEC Brake Fluid DOT 4**

Revision date: 19.01.2024

Product code: 25101

Page 2 of 10

**SECTION 3: Composition/information on ingredients**
**3.2. Mixtures**
**Relevant ingredients**

| CAS No     | Chemical name  |              |                  | Quantity   |
|------------|--|--------------|------------------|------------|
|            | EC No  | Index No     | REACH No         |            |
|            | Classification (Regulation (EC) No 1272/2008)  |              |                  |            |
| 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'-iminodipropan-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.

**Specific Conc. Limits, M-factors and ATE**

| CAS No   | EC No  | Chemical name  | Quantity   |
|----------|--|--|------------|
|          | Specific Conc. Limits, M-factors and ATE                       |  |            |
|          | 907-996-4  | Reaction mass of 2- (2- (2-butoxyethoxy) ethoxy) ethanol and 3,6,9,12-tetraoxahexadecan-1-ol | 10 - <14 % |
|          | Eye Dam. 1; H318: >= 30 - 100 Eye Irrit. 2; H319: >= 20 - < 30 |  |            |
| 111-46-6 | 203-872-2  | 2,2' -oxybisethanol  | >1 - <10 % |
|          | oral: ATE = 500 mg/kg  |  |            |
| 110-97-4 | 203-820-9  | 1,1'-iminodipropan-2-ol  | >1 - <10 % |
|          | oral: LD50 = 4765 mg/kg  |  |            |

**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**

**HIGHTEC Brake Fluid DOT 4**

Revision date: 19.01.2024

Product code: 25101

Page 3 of 10

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.

**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****General advice**

Avoid contact with skin, eyes and clothes. Do not breathe mist/vapours/spray.

**For non-emergency personnel**

Provide adequate ventilation. Use personal protection equipment. Remove persons to safety.

**For emergency responders**

Wear personal protection equipment (refer to section 8).

**6.2. Environmental precautions**

Do not allow to enter into surface water or drains.

**6.3. Methods and material for containment and cleaning up****For containment**

Stop leak if safe to do so. Cover drains. Prevent spread over a wide area (e.g. by containment or oil barriers).

**For cleaning up**

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

**Other information**

Clean contaminated articles and floor according to the environmental legislation.

**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.

**Advice on general occupational hygiene**

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.

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### HIGHTEC Brake Fluid DOT 4

Revision date: 19.01.2024

Product code: 25101

Page 4 of 10

#### 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.

##### 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 <sup>3</sup> | fib/cm <sup>3</sup> | 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.

##### Individual protection measures, such as personal protective equipment

##### Eye/face protection

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.

##### Skin protection

Use of protective clothing.

##### Respiratory protection

In case of inadequate ventilation wear respiratory protection.

##### 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: yellow  
 Odour: characteristic

Melting point/freezing point: not determined

##### Test method

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### HIGHTEC Brake Fluid DOT 4

Revision date: 19.01.2024

Product code: 25101

Page 5 of 10

|   |                            |                 |
|---|----------------------------|-----------------|
| Boiling point or initial boiling point and boiling range: | >260 °C                    | FMVSS 116       |
| Flammability:   | Not readily combustible.   |                 |
| Lower explosion limits:                                   | 1,5 vol. %                 |                 |
| Upper explosion limits:                                   | not determined             |                 |
| Flash point:  | >139 °C                    | DIN EN ISO 2719 |
| Auto-ignition temperature:                                | not determined             | DIN 51794       |
| Decomposition temperature:                                | 360 °C                     | DSC             |
| pH-Value (at 20 °C):                                      | ~ 8,5                      | FMVSS 116       |
| Viscosity / kinematic:<br>(at 20 °C)                      | ~ 15-17 mm <sup>2</sup> /s | FMVSS 116       |
| Water solubility:<br>(at 20 °C)                           | completely miscible        |                 |
| Solubility in other solvents                              | not determined             |                 |
| Partition coefficient n-octanol/water:                    | not applicable             |                 |
| Vapour pressure:<br>(at 20 °C)                            | <1 hPa                     |                 |
| Density (at 20 °C):                                       | ~ 1,06 g/cm <sup>3</sup>   | DIN 51757       |
| Relative vapour density:                                  | not determined             |                 |
| Particle characteristics:                                 | not relevant               |                 |

#### 9.2. Other information

##### Information with regard to physical hazard classes

Self-ignition temperature

Gas:

&gt;200 °C

##### Other safety characteristics

Pour point:

&lt; -70 °C

DIN 51583

##### Further Information

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 hazard classes as defined in Regulation (EC) No 1272/2008

##### Acute toxicity

Based on available data, the classification criteria are not met.

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**HIGHTEC Brake Fluid DOT 4**

Revision date: 19.01.2024

Product code: 25101

Page 6 of 10

**ATEmix calculated**

ATE (oral) 5051 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) > 5 mg/l

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

**Irritation and corrosivity**

Based on available data, the classification criteria are not met.  
not determined

**Sensitising effects**

Based on available data, the classification criteria are not met.

**Carcinogenic/mutagenic/toxic effects for reproduction**

Suspected of damaging the unborn child. (Tris [2- [2- (2-methoxyethoxy) ethoxy] ethyl] orthoborate)

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

Carcinogenicity: Based on available data, the classification criteria are not met.

**STOT-single exposure**

Based on available data, the classification criteria are not met.

**STOT-repeated exposure**

Based on available data, the classification criteria are not met.

**Aspiration hazard**

Based on available data, the classification criteria are not met.

**11.2. Information on other hazards**
**Other information**

No information available.

**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**
**12.1. Toxicity**

Based on available data, the classification criteria are not met.

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.

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**HIGHTEC Brake Fluid DOT 4**

Revision date: 19.01.2024

Product code: 25101

Page 7 of 10

**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 substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

**12.6. Endocrine disrupting properties**

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

**12.7. 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**

Hazardous waste according to Directive 2008/98/EC (waste framework directive). Handle contaminated packages in the same way as the substance itself.

**SECTION 14: Transport information**
**Land transport (ADR/RID)**

|  |  |
|--|--|
| <b>14.1. UN number or ID number:</b>     | No dangerous good in sense of this transport regulation. |
| <b>14.2. UN proper shipping name:</b>    | No dangerous good in sense of this transport regulation. |
| <b>14.3. Transport hazard class(es):</b> | No dangerous good in sense of this transport regulation. |
| <b>14.4. Packing group:</b>              | No dangerous good in sense of this transport regulation. |

**Inland waterways transport (ADN)**

|  |  |
|--|--|
| <b>14.1. UN number or ID number:</b>     | No dangerous good in sense of this transport regulation. |
| <b>14.2. UN proper shipping name:</b>    | No dangerous good in sense of this transport regulation. |
| <b>14.3. Transport hazard class(es):</b> | No dangerous good in sense of this transport regulation. |
| <b>14.4. Packing group:</b>              | No dangerous good in sense of this transport regulation. |

**Marine transport (IMDG)**

|  |  |
|--|--|
| <b>14.1. UN number or ID number:</b>     | No dangerous good in sense of this transport regulation. |
| <b>14.2. UN proper shipping name:</b>    | No dangerous good in sense of this transport regulation. |
| <b>14.3. Transport hazard class(es):</b> | No dangerous good in sense of this transport regulation. |
| <b>14.4. Packing group:</b>              | No dangerous good in sense of this transport regulation. |

**Air transport (ICAO-TI/IATA-DGR)**

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### HIGHTEC Brake Fluid DOT 4

Revision date: 19.01.2024

Product code: 25101

Page 8 of 10

|  |  |
|--|--|
| <b>14.1. UN number or ID number:</b>     | No dangerous good in sense of this transport regulation. |
| <b>14.2. UN proper shipping name:</b>    | No dangerous good in sense of this transport regulation. |
| <b>14.3. Transport hazard class(es):</b> | No dangerous good in sense of this transport regulation. |
| <b>14.4. Packing group:</b>              | 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. Maritime transport in bulk according to IMO instruments**

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, Entry 75

Information according to Directive 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**

This data sheet contains changes from the previous version in section(s): 1,2,11.



## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### HIGHTEC Brake Fluid DOT 4

Revision date: 19.01.2024

Product code: 25101

Page 9 of 10

#### Abbreviations and acronyms

Acute Tox: Acute toxicity  
 Eye Dam: Eye damage  
 Eye Irrit: Eye irritation  
 Repr: Reproductive toxicity  
 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: ECHA Guidance on information requirements and chemical safety  
 assessment, chapter R.20 (Table of terms and abbreviations).

#### 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

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**HIGHTEC Brake Fluid DOT 4**

Revision date: 19.01.2024

Product code: 25101

Page 10 of 10

for adhering to existing laws and regulations.

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