

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Alpine Brake Fluid DOT 4

Print date: 14.04.2016

Product code: MIT0044

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

##### 1.1. Product identifier

Alpine Brake Fluid DOT 4

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

##### 1.3. Details of the supplier of the safety data sheet

|                          |                                    |                              |
|--------------------------|------------------------------------|------------------------------|
| Company name:            | Mitan Mineralöl GmbH               |                              |
| Street:                  | Industriestraße 8                  |                              |
| Place:                   | D-49577 Ankum                      |                              |
| Telephone:               | +49 (0)5462/7470-50                | Telefax: +49 (0)5462/7470-33 |
| e-mail:                  | info@mitan-oil.de                  |                              |
| e-mail (Contact person): | sicherheitsdatenblatt@mitan-oil.de |                              |
| Internet:                | www.mitan-oil.de                   |                              |

##### 1.4. Emergency telephone

Gif tinformationszentrum Nord (Göttingen)

##### number:

+49 (0)551/19240

#### SECTION 2: Hazards identification

##### 2.1. Classification of the substance or mixture

###### Regulation (EC) No. 1272/2008

Hazard categories:

Acute toxicity: Acute Tox. 4

Serious eye damage/eye irritation: Eye Irrit. 2

Specific target organ toxicity - repeated exposure: STOT RE 2

Hazard Statements:

Harmful if swallowed.

Causes serious eye irritation.

May cause damage to organs through prolonged or repeated exposure.

##### 2.2. Label elements

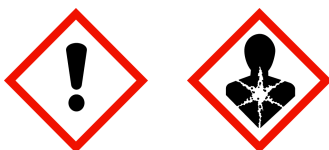
###### Regulation (EC) No. 1272/2008

###### Hazard components for labelling

2,2' -oxybisethanol, diethylene glycol

Signal word: Warning

Pictograms:



###### Hazard statements

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

###### Precautionary statements

|                |  |
|----------------|--|
| P501           | Dispose of contents/container to Dispose of waste according to applicable legislation..  |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P280           | Wear protective gloves/protective clothing/eye protection/face protection.   |
| P260           | Do not breathe dust/fume/gas/mist/vapours/spray.   |

##### 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         |             |
|            | Classification according to Regulation (EC) No. 1272/2008 [CLP]  |              |                  |             |
| 143-22-6   | 2-[2-(2-butoxyethoxy)ethoxy]ethanol, TEGBE, butoxytriethylene glycol, triethylene glycol monobutyl ether |              |                  | >10-<30 %   |
|            | 205-592-6  | 603-183-00-0 |                  |             |
|            | Eye Dam. 1; H318   |              |                  |             |
| 111-46-6   | 2,2' -oxybisethanol, diethylene glycol   |              |                  | >10-<30 %   |
|            | 203-872-2  | 603-140-00-6 | 01-2119457857-21 |             |
|            | Acute Tox. 4, STOT RE 2; H302 H373   |              |                  |             |
| 10043-35-3 | Boric acid   |              |                  | >3-<5 %     |
|            | 233-139-2  | 005-007-00-2 |                  |             |
|            | Repr. 1B; H360FD   |              |                  |             |
| 111-77-3   | 2-(2-methoxyethoxy)ethanol, diethylene glycol monomethyl ether   |              |                  | >1-<3 %     |
|            | 203-906-6  | 603-107-00-6 |                  |             |
|            | Repr. 2; H361d ***   |              |                  |             |
| 110-97-4   | 1,1'-iminodipropan-2-ol, di-isopropanolamine   |              |                  | >1-<3 %     |
|            | 203-820-9  | 603-083-00-7 |                  |             |
|            | Eye Irrit. 2; H319   |              |                  |             |
| 112-34-5   | 2-(2-butoxyethoxy)ethanol, diethylene glycol monobutyl ether   |              |                  | >0,1-<1,0 % |
|            | 203-961-6  | 603-096-00-8 |                  |             |
|            | 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

Remove casualty to fresh air and keep warm and at rest.

#### After inhalation

Remove casualty to fresh air and keep warm and at rest.

#### After contact with skin

After contact with skin, wash immediately with plenty of water and soap.

#### After contact with eyes

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.

#### After ingestion

Rinse mouth immediately and drink plenty of water. Medical treatment necessary. Do NOT induce vomiting.

### 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.

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## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

#### Suitable extinguishing media

Co-ordinate fire-fighting measures to the fire surroundings. Foam. Carbon dioxide (CO<sub>2</sub>). Extinguishing powder  
Water mist

#### Unsuitable extinguishing media

High power water jet.

### 5.2. Special hazards arising from the substance or mixture

Non-flammable. Vapours can form explosive mixtures with air.

### 5.3. Advice for firefighters

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

#### Additional information

Use water spray jet to protect personnel and to cool endangered containers. 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.

### 6.3. 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.

#### 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.

#### Advice on storage compatibility

No special measures are necessary.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

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#### Exposure limits (EH40)

| CAS No   | Substance                  | ppm | mg/m <sup>3</sup> | fibres/ml | Category      | Origin |
|----------|----------------------------|-----|-------------------|-----------|---------------|--------|
| 111-46-6 | 2,2'-Oxydiethanol          | 23  | 101               |           | TWA (8 h)     | WEL    |
|          |                            | -   | -                 |           | STEL (15 min) | WEL    |
| 112-34-5 | 2-(2-Butoxyethoxy)ethanol  | 10  | 67.5              |           | TWA (8 h)     | WEL    |
|          |                            | 15  | 101.2             |           | STEL (15 min) | WEL    |
| 111-77-3 | 2-(2-Methoxyethoxy)ethanol | 10  | 50.1              |           | TWA (8 h)     | WEL    |
|          |                            | -   | -                 |           | STEL (15 min) | 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.

##### Eye/face protection

Suitable eye protection: goggles.

##### 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

Wear suitable 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: colourless  
 Odour: -

#### Test method

pH-Value: 7

#### Changes in the physical state

Melting point: -50 °C  
 Initial boiling point and boiling range: 205 °C  
 Flash point: > 90 °C

#### Flammability

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|                                     |                        |
|-------------------------------------|------------------------|
| Solid:                              | not applicable         |
| Gas:                                | not applicable         |
| Lower explosion limits:             | not determined         |
| Upper explosion limits:             | not determined         |
| <b>Auto-ignition temperature</b>    |                        |
| Solid:                              | not applicable         |
| Gas:                                | not applicable         |
| Decomposition temperature:          | not determined         |
| <b>Oxidizing properties</b>         |                        |
| Not oxidizing.                      |                        |
| Vapour pressure:                    | <200 hPa               |
| Density (at 20 °C):                 | 1,01 g/cm <sup>3</sup> |
| Water solubility:                   | easily soluble         |
| <b>Solubility in other solvents</b> |                        |
| not determined                      |                        |
| Partition coefficient:              | not determined         |
| Vapour density:                     | not determined         |
| Evaporation rate:                   | not determined         |
| <b>9.2. Other information</b>       |                        |
| Solid content:                      | not determined         |

**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**

Harmful if swallowed.

**ATEmix calculated**

ATE (oral) 1667,2 mg/kg

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| CAS No   | Chemical name  |               |             |         |        |
|----------|--|---------------|-------------|---------|--------|
|          | Exposure routes  | Method        | Dose        | Species | Source |
| 111-46-6 | 2,2' -oxybisethanol, diethylene glycol                         |               |             |         |        |
|          | oral   | ATE           | 500 mg/kg   |         |        |
|          | dermal   | LD50          | 11890 mg/kg | Rabbit  |        |
| 111-77-3 | 2-(2-methoxyethoxy)ethanol, diethylene glycol monomethyl ether |               |             |         |        |
|          | oral   | LD50<br>mg/kg | ca. 6500    | Rat     |        |
|          | dermal   | LD50<br>mg/kg | ca. 6450    | Rabbit  |        |
|          | inhalative (1 h) vapour  | LC50          | > 200 mg/l  | Rat     |        |
| 110-97-4 | 1,1'-iminodipropan-2-ol, di-isopropanolamine                   |               |             |         |        |
|          | oral   | LD50          | 4765 mg/kg  | Rat     |        |
| 112-34-5 | 2-(2-butoxyethoxy)ethanol, diethylene glycol monobutyl ether   |               |             |         |        |
|          | oral   | LD50          | 5660 mg/kg  | Rat     |        |
|          | dermal   | LD50          | 4120 mg/kg  | Rabbit  |        |

#### Irritation and corrosivity

Causes serious eye irritation.

#### Sensitising effects

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

#### STOT-single exposure

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

#### Severe effects after repeated or prolonged exposure

May cause damage to organs through prolonged or repeated exposure. (2,2' -oxybisethanol, diethylene glycol)

#### Carcinogenic/mutagenic/toxic effects for reproduction

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

#### Aspiration hazard

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

#### Additional information on tests

This 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.

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| CAS No   | Chemical name  |        |                  |           |                         |        |
|----------|--|--------|------------------|-----------|-------------------------|--------|
|          | Aquatic toxicity   | Method | Dose             | [h]   [d] | Species                 | Source |
| 111-46-6 | 2,2'-oxybisethanol, diethylene glycol                          |        |                  |           |                         |        |
|          | Acute fish toxicity  | LC50   | > 32000 mg/l     | 96 h      | Gambusia affinis        |        |
| 111-77-3 | 2-(2-methoxyethoxy)ethanol, diethylene glycol monomethyl ether |        |                  |           |                         |        |
|          | Acute fish toxicity  | LC50   | 7500 mg/l        | 96 h      | Lepomis macrochirus     |        |
|          | Acute algae toxicity   | ErC50  | > 500 mg/l       | 72 h      | Desmodesmus subspicatus |        |
|          | Acute crustacea toxicity                                       | EC50   | > 500 mg/l       | 48 h      | Daphnia magna           |        |
| 110-97-4 | 1,1'-iminodipropan-2-ol, di-isopropanolamine                   |        |                  |           |                         |        |
|          | Acute fish toxicity  | LC50   | > 1000-2200 mg/l | 96 h      | Leuciscus idus          |        |
| 112-34-5 | 2-(2-butoxyethoxy)ethanol, diethylene glycol monobutyl ether   |        |                  |           |                         |        |
|          | Acute algae toxicity   | ErC50  | > 100 mg/l       |           | Scenedesmus sp.         |        |
|          | Acute crustacea toxicity                                       | EC50   | > 100 mg/l       | 48 h      | Daphnia magna           |        |

#### 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      |
|------------|--|--------------|
| 111-46-6   | 2,2'-oxybisethanol, diethylene glycol                          | -1,98 (25°C) |
| 10043-35-3 | Boric acid   | -1,09        |
| 111-77-3   | 2-(2-methoxyethoxy)ethanol, diethylene glycol monomethyl ether | -0,68        |
| 110-97-4   | 1,1'-iminodipropan-2-ol, di-isopropanolamine                   | -0,82        |
| 112-34-5   | 2-(2-butoxyethoxy)ethanol, diethylene glycol monobutyl ether   | 0,56 (25°C)  |

#### 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.

##### Contaminated packaging

This material and its container must be disposed of as hazardous waste. 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.

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|  |  |
|--|--|
| <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:</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:</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)

|  |  |
|--|--|
| <b>14.1. UN 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. Transport in bulk according to Annex II of MARPOL73/78 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

|                   |                       |
|-------------------|-----------------------|
| 2010/75/EU (VOC): | 2,99 % (30,199 g/l)   |
| 2004/42/EC (VOC): | 36,96 % (373,296 g/l) |

#### Additional information

To follow: 850/2004/EC, 1107/2009/EC, 649/2012/EC.

#### National regulatory information

Employment restrictions: Observe restrictions to employment for juvenils 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 contaminating class (D): 1 - slightly water contaminating

### 15.2. Chemical safety assessment

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

## SECTION 16: Other information

### 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)



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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.                                     |
| H360FD | May damage fertility. May damage the unborn child.                 |
| H361d  | Suspected of damaging the unborn child.                            |
| H373   | May cause damage to organs through prolonged or repeated exposure. |

#### Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

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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.)*