

MATERIAL SAFETY DATA SHEET

(in accordance with CE 1907/2006 – REACH)

1. Identification of the substance/preparation and of the company

1.1 **Product name:**

BRAKE FLUID 4

1.2 **Relevant identified uses of the substance or mixture:**

Brake fluid

Uses advises against:

All except above indicated

1.3 **Manufacturer/Supplier:**

Sunstar Engineering Italy s.r.l

Via L. Manara 2

20815 Limbiate (MB)

ITALY

Tel. +39 02 970 75699 E-mail: centralino@it.sunstar.com

Fax: +39 02 970 75698

www.sunstar.com

Reference to safety data sheet:

1.4 **Emergency telephone number:**

Centro Antiveneni Ospedale Niguarda Milano +39 02 66101029

2. Hazards identification

2.1 **Class. Accord. to CE 1272/2008 (CLP-GHS):**

Eye Dam.1; H318 serious eye damage cat.1

2.2 **Label elements CE 1272/2008: Pictograms:**



GHS05

Signal word:

Danger

Hazard statements H:

H318: Causes serious eye damage

Precautionary statements P:

P280: Wear protective gloves/protective clothing/eye protection/face protection

P305+351+338: IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.

P310: Immediately call a POISON CENTER or doctor/physician

Contains:

Reaction mass of 2-(2-(2-butoxyethanol) ethoxy)ethanol and 3,6,9,12-tetraoxahexadecan-1-ol

2.3 **Other hazards :**

Based on available data this product is PBT free or vPvB at >0.1%

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3. Composition/information on ingredients

| 3.1 Mixtures | | | | | |
|-------------------------|------------|-----------------------|---|---------|-------------------|
| Dangerous components: | | | | | |
| Nr. CE | Nr. CAS | Nr. Reach | Description | % | Class. 1272/08 |
| | | 01-2119531322-53-xxxx | Reaction mass of 2-(2-(2-butoxyethanol)ethoxy)ethanol and 3,6,9,12-tetraoxahexadecan-1-ol | 50-<100 | Eye Dam-1; H318 |
| - | 71035-05-7 | - | 3,6,8,11-tetraoxa-7-boratridecane-1,13-diol,7-[2-(hydroxyethoxy)ethoxy] | 3-<9 | Acute Tox.4; H302 |
| Additional information: | | | Complete list H hazard statements is indicated in point 16 of this MSDS. | | |

4. First aid measures

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| <p>4.1 General information:</p> <p>- after inhalation:</p> <p>- after skin contact:</p> <p>- after eye contact:</p> <p>- after swallowing:</p> <p>4.2 Most important symptoms and effects, both acute and delayed:</p> <p>4.3 Indication of any immediate medical attention and special treatment needed:</p> | <p>Provide fresh air. Take affected person out of danger area and lay down. Place a person into stable position, lying on one side, even in case of transport, in case of breath difficulties place the person with the trunk raised.</p> <p>Provide fresh air. In case of respiratory tract irritation, consult a physician (if possible show the label of this product)</p> <p>Remove contaminated clothes, wash with plenty of soap and water. Launder contaminated clothing before reuse.</p> <p>Rinse opened eye for several minutes under running water, if necessary consult a doctor</p> <p>Observe risk of aspiration if vomiting occurs. Seek medical advice.</p> <p>For symptoms and effects caused by the contained substances see chap.11</p> <p>None.</p> |
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| 5. Fire fighting measures | |
| <p>5.1 Extinguishing media:</p> <p style="padding-left: 20px;">Suitable extinguishing media:</p> <p style="padding-left: 20px;">Unsuitable extinguishing media:</p> <p>5.2 Special hazards arising from the substance or mixture:</p> <p>5.3 Advice for firefighters:</p> <p>5.4 Additional information:</p> | <p>CO₂, extinguishing powder, foam, sand or nebulized water</p> <p>None.</p> <p>Hazard caused by exposure in the event of fire. Do not breathe combustion products.</p> <p>In case of fire: Wear self-contained breathing apparatus. Use water jet only to cool the around surfaces.</p> <p>Equipment: Normal fire fighting clothing, like a compressed air breathing apparatus open circuit (EN 137), complete with flame retardant (EN 469), fire resistant gloves (EN 659) and boots Firefighter (HO A29 or A30).</p> <p>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.</p> |
| 6. Accidental release measures | |
| <p>6.1 Personal precautions, protective equipment and emergency procedures:</p> <p>6.2 Environmental precautions:</p> <p>6.3 Methods and material for containment and cleaning up:</p> <p>6.4 Reference to other sections:</p> | <p>If possible and safe stop the product release. Wear suitable protective clothing (including those indicated in section 8 of this MSDS) in order to avoid skin, eyes and clothes contamination. This indication is valid for operators as well as for emergency personnel.</p> <p>Do not allow uncontrolled discharge of product into the environment, prevent from penetrating drains, water or soil.</p> <p>Absorb with liquid-binding material in appropriate, closed waste bin (e.g. sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.</p> <p>Safe handling: see section 7 Personal protection equipment: see section 8 Disposal: see section 13</p> |
| 7. Handling and storage | |
| <p>7.1 Precautions for safe handling:</p> <p style="padding-left: 20px;">Information about protection against explosions and fires:</p> <p>7.2 Conditions for safe storage, including any incompatibilities:</p> <p>7.3 Specific end use(s):</p> | <p>Manage this product after consulting all sections of present MSDS. Do not allow uncontrolled discharge of product into the environment. Do not eat, drink or smoke while handling it. Remove contaminated clothing and protective equipment before entering areas where you eat.</p> <p>Do not smoke, avoid contact with lighting sources</p> <p>Store only in original holders. Keep container tightly closed. Keep in a cool, well-ventilated place. Keep away from eventually incompatible materials (see section 10).</p> <p>No data available.</p> |

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8. Exposure controls and personal protection

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| <p>8.1 Control parameters: Exposure limits:</p> <p>8.2 Exposure controls Personal protective equipment: -General protective and hygiene measures:</p> <p>-Respiratory protection:</p> <p>-Hand protection:</p> <p>-Eye protection:</p> <p>-Body protection:</p> | <p>No data available</p> <p>Avoid contact with skin, eyes and clothes. Remove contaminated, saturated clothing immediately. Wash hands before breaks and after work. Keep away from food, drink and animal feeding stuffs.</p> <p>In case of inadequate ventilation wear respiratory protection. Suitable respiratory protection apparatus: Combination filtering device (EN 14387) Type : A, class 1,2 or 3. In the case were present gas or of a different nature vapors and / or gases or vapors with particles (aerosols, fumes, mists, etc.) should be provided for combined type filters. In the case where the substance is odorless or its olfactory threshold is higher than the related TLV-TWA, and in case of emergency, wear a compressed air breathing apparatus open circuit (ref. Standard EN 137) or a respirator in socket d outdoor air (ref. standard EN 138). For the correct choice of respiratory protection device, refer to EN 529-</p> <p>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. Suitable material:</p> <p>Protect your hands with gloves category III (EN 374). Wear eye/face protection. Suitable eye protection: goggles, Eye glasses with side protection. EN 166</p> <p>Wear anti-static footwear and clothing. Wash with water and soap after removing protective clothing.</p> |
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9. Physical and chemical properties

| <p>9.1 Main physical and chemical pr.: Form: Colour: Odour: Odour threshold:</p> <p>Flash point: Pourpoint: Solubility / miscibility in water: Dynamic viscosity: pH: Selfignition: Danger of explosion: Initial ebolition point: Evaporation rate: Flammability (solid, gas): Lower explosive limit: Upper explosive limit: Vapour pressure:</p> | <p>Liquid Yellow Characteristic Non determined</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Value</th> <th style="text-align: left;">Unit</th> <th style="text-align: left;">Method</th> </tr> </thead> <tbody> <tr> <td>>130</td> <td>°C</td> <td></td> </tr> <tr> <td><-70</td> <td>°C</td> <td></td> </tr> <tr> <td>Miscible</td> <td></td> <td></td> </tr> <tr> <td>15-17.5 mm2/s</td> <td></td> <td></td> </tr> <tr> <td>7.5-9.0</td> <td></td> <td></td> </tr> <tr> <td>Product is not self-igniting</td> <td></td> <td></td> </tr> <tr> <td>Product is not explosive</td> <td></td> <td></td> </tr> <tr> <td>>260°C</td> <td></td> <td></td> </tr> <tr> <td>No data available</td> <td></td> <td></td> </tr> <tr> <td>No data available</td> <td></td> <td></td> </tr> <tr> <td>15 vol%</td> <td></td> <td></td> </tr> <tr> <td>No data available</td> <td></td> <td></td> </tr> <tr> <td>No data available</td> <td></td> <td></td> </tr> </tbody> </table> | Value | Unit | Method | >130 | °C | | <-70 | °C | | Miscible | | | 15-17.5 mm2/s | | | 7.5-9.0 | | | Product is not self-igniting | | | Product is not explosive | | | >260°C | | | No data available | | | No data available | | | 15 vol% | | | No data available | | | No data available | | |
|---|---|---------------|-------------|---------------|------|----|--|------|----|--|----------|--|--|---------------|--|--|---------|--|--|------------------------------|--|--|--------------------------|--|--|--------|--|--|-------------------|--|--|-------------------|--|--|---------|--|--|-------------------|--|--|-------------------|--|--|
| Value | Unit | Method | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| >130 | °C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <-70 | °C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Miscible | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15-17.5 mm2/s | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7.5-9.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Product is not self-igniting | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Product is not explosive | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| >260°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| No data available | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| No data available | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 vol% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| No data available | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| No data available | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| <p>Vapour density: Partition coefficient n-octanol/ water: Autoignition temperature: Decomposition temperature: Oxidising properties:</p> <p>9.2 Other information: VOC (2010/75/CE) VOC (volatile carbonium) Density: Soluble in: Vapour tension:</p> | <p>No data available</p> <p>No data available</p> <p>>200°C</p> <p>No data available</p> <p>No data available</p> <p>0</p> <p>0</p> <p>1.055 - 1.075 g/cm³</p> <p>Water</p> <p>< 1 mbar (20 °C)</p> |
| <h3>10. Stability and reactivity</h3> | |
| <p>10.1 Reactivity: 10.2 Chemical stability: 10.3 Possibility of hazardous reactions: 10.4 Conditions to avoid: 10.5 Incompatible materials: 10.6 Hazardous decomposition products:</p> | <p>No decomposition if used according to specifications.</p> <p>The product is stable if used according to specification.</p> <p>No dangerous reaction known under normal storage and use conditions.</p> <p>None in particular. However the usual precautions against chemicals.</p> <p>No data available</p> <p>No data available</p> |
| <h3>11. Toxicological information</h3> | |
| <p>11.1 Information on toxicological effects: Acute toxicity: inhalation: Swallowing: skin contact: eye contact:</p> | <p>No toxicological experiments have been made on this product. Eventual valuation of the product for the human health are made by criteria suitable for this type of valuation. Consider therefore the concentration of each dangerous substance eventually indicated in section 3 to evaluate eventual toxicity caused by exposition to this product. Exposition to vapour or mist may cause irritation of respiratory tract. May cause irritation of digestive tract, vomit, nausea and diarrhoea. Frequent and prolonged contact with skin may degrease and irritate it and possibly cause dermatitis. Product causes serious eye damages.</p> |
| <h3>12. Ecological information</h3> | |
| <p>Use this product correctly and do not allow uncontrolled discharge of product into the environment, prevent from penetrating drains, water or soil. Inform the authorities in case of environmental pollution.</p> <p>12.1 Toxicity: 12.2 Persistence and degradability: 12.3 Bioaccumulative potential: 12.4 Mobility in soil: 12.5 Results of PBT and vPvB assessment: 12.6 Other adverse effects:</p> | <p>No information available.</p> <p>The product has not been tested.</p> <p>The product has not been tested.</p> <p>The product has not been tested.</p> <p>Based on the available data, the product does not contain PBT or vPvB percentage greater than 0.1%.</p> <p>No data available for this product.</p> |

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13. Disposal considerations

13.1 Waste treatment methods

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

-Contaminated packaging:

Completely emptied and clean packages can be recycled. Handle contaminated packaging in the same way as the substance itself. Waste treatment in accordance with local official regulations.

14. Transport information

14.1. UN Number: The product is not considered as dangerous for road transport (ADR/RID), air transport (ICAO/IATA) and sea transport (IMDG)

14.2. UN proper shipping name: Not applicable

14.3. Transport hazard class(es): Not applicable

14.4. Packaging group: Not applicable

14.5. Environmental hazard: Not applicable

14.6 Special precautions for users: Not applicable

14.7. Tr Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not applicable

15. Regulations

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

Reg. CE 1272/2008 (CLP)
Reg. CE 790/2009 (1° ATP CLP)
Reg. 1907/2006 (Reach)
Reg. UE 453/2010

More information:

/

15.2 Chemical safety assessment:

No data available for this product

16. Other information

This MSDS was prepared in accordance to REACH 1907/2006/EC.

Relevant H hazard statements in point 3:

H hazard statements:

Acute Tox.4 acute toxicity cat.4

Eye dam 1 serious eye damage cat.1

H302 Harmful if swallowed

H318 Causes serious eye damage

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Reviewed on: 29.06.2016