

## 1 Identification

- **Product identifier**
- **Trade name:** BRAKE FLUID DOT 5.1
- **Application of the substance / the mixture**  
Only for proper handling.  
Brake fluid
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
BUCHER\_AG\_LANGENTHAL  
MOTOREX-Schmiertechnik  
Bern-Zürich-Strasse\_31\_\_  
CH-4901\_Langenthal\_\_  
Telefon\_+41\_(0)62\_919\_75\_75  
  
Lube-Tech  
Lubrication Technologies, Inc.  
900 Mendelssohn Avenue North  
US-55427 Golden Valley, Minnesota  
Phone: 001 763 417 1357
- **Information department:** [msds@motorex.com](mailto:msds@motorex.com)
- **Emergency telephone number:**  
Toxicological Information Centre  
CH-8028 Zurich  
[info@toxi.ch](mailto:info@toxi.ch)  
T. +41 (0)44 251 51 51  
USA + Kanada: 1 800 424 9300 (Chemtrec Chemical Manufacturers Association, Arlington, VA 22209)

## 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS08 Health hazard

STOT RE 2      H373 May cause damage to organs through prolonged or repeated exposure.



GHS07

Skin Sens. 1      H317 May cause an allergic skin reaction.

Aquatic Acute 3      H402 Harmful to aquatic life.

Aquatic Chronic 3      H412 Harmful to aquatic life with long lasting effects.

- **Label elements**
- **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

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- **Hazard pictograms**



GHS07 GHS08

- **Signal word** Warning

- **Hazard-determining components of labeling:**

2,2'-oxybisethanol

N,N-bis(2-ethylhexyl)-4-methyl-1H-benzotriazole-1-methylamine

- **Hazard statements**

H317 May cause an allergic skin reaction.

H373 May cause damage to organs through prolonged or repeated exposure.

H402 Harmful to aquatic life.

H412 Harmful to aquatic life with long lasting effects.

- **Precautionary statements**

P260 Do not breathe dust/fume/gas/mist/vapors/spray.

P280 Wear protective gloves.

P273 Avoid release to the environment.

P272 Contaminated work clothing must not be allowed out of the workplace.

P321 Specific treatment (see on this label).

P363 Wash contaminated clothing before reuse.

P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

P314 Get medical advice/attention if you feel unwell.

P302+P352 IF ON SKIN: Wash with plenty of water.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Classification system:**

- **NFPA ratings (scale 0 - 4)**



Health = 0

Fire = 1

Reactivity = 0

- **HMIS-ratings (scale 0 - 4)**



HEALTH 0 Health = 0

FIRE 1 Fire = 1

REACTIVITY 0 Reactivity = 0

- **Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

## 3 Composition/information on ingredients

- **Chemical characterization: Mixtures**

- **Description:** Mixture of the substances listed below with nonhazardous additions.

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· <b>Dangerous components:</b>		
CAS: 111-46-6 Reg.nr.: 01-2119457857-21	2,2'-oxybisethanol ☠ STOT RE 2, H373; ☠ Acute Tox. 4, H302	1-2.5%
CAS: 101-83-7 Reg.nr.: 01-2119493354-33	dicyclohexylamine ☠ Acute Tox. 3, H301; Acute Tox. 3, H311; ☠ Skin Corr. 1B, H314; ☠ Aquatic Chronic 1, H410	0.25-1%
CAS: 80584-90-3	N,N-bis(2-ethylhexyl)-4-methyl-1H-benzotriazole-1-methylamine ☠ Aquatic Acute 1, H400; Aquatic Chronic 2, H411; ☠ Skin Irrit. 2, H315; Skin Sens. 1, H317	0.25-1%

### 4 First-aid measures

- **Description of first aid measures**
- **General information:**  
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:**  
Supply fresh air and to be sure call for a doctor.  
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:**  
Remove residues with soap and water.  
Remove contaminated clothing immediately.  
Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:**  
Rinse opened eye for several minutes under running water.  
Consult a physician if irritation develops.
- **After swallowing:**  
Rinse mouth and drink large amount of water.  
Consult a physician immediately.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed**  
No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture**  
During heating or in case of fire poisonous gases are produced.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Mount respiratory protective device.
- **Environmental precautions:**  
Do not allow product to reach sewage system or any water course.  
Inform respective authorities in case of seepage into water course or sewage system.

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- Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.
  - **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

### 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
Good general ventilation should be sufficient for most conditions.  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.
- **Information about protection against explosions and fires:**  
Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**  
Keep container tightly closed; product is hygroscopic.  
Store in cool, dry well ventilated area away from sources of ignition and heat.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** None.
- **Storage class:** 10
- **Specific end use(s)** No further relevant information available.

### 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

111-46-6 2,2'-oxybisethanol

WEEL | Long-term value: 10 mg/m<sup>3</sup>

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing.  
Wash hands before breaks and at the end of work.  
Store protective clothing separately.
- **Breathing equipment:**  
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

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- **Protection of hands:**  
Impervious gloves



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves** Use CR or NBR rubber gloves. Material thickness: 0.5 mm
- **Penetration time of glove material**  
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:**



Tightly sealed goggles

## 9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

· <b>Form:</b>	Fluid
· <b>Color:</b>	Yellowish
· <b>Odor:</b>	Characteristic
· <b>Odor threshold:</b>	Not determined.

- **pH-value:** Not determined.

- **Change in condition**

· <b>Melting point/Melting range:</b>	Undetermined.
· <b>Boiling point/Boiling range:</b>	> 260 °C (> 500 °F) (DIN EN ISO 3405)

- **Flash point:** > 130 °C (> 266 °F)

- **Flammability (solid, gaseous):** Not applicable.

- **Ignition temperature:**

· <b>Decomposition temperature:</b>	Not determined.
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- **Auto igniting:** Product is not selfigniting.

- **Danger of explosion:** Product does not present an explosion hazard.

- **Explosion limits:**

· <b>Lower:</b>	Not determined.
· <b>Upper:</b>	Not determined.

- **Vapor pressure:** Not determined.

- **Density at 20 °C (68 °F):** 1.06 g/cm<sup>3</sup> (8.846 lbs/gal) (ASTM D 4052)

- **Relative density** Not determined.

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- |   |  |
|---|--|
| · <b>Vapor density</b>  | Not determined.                            |
| · <b>Evaporation rate</b>   | Not determined.                            |
| · <b>Solubility in / Miscibility with Water:</b>                  | Not miscible or difficult to mix.          |
| · <b>Partition coefficient (n-octanol/water):</b> Not determined. |  |
| · <b>Viscosity:</b>   |  |
| · <b>Dynamic:</b>   | Not determined.                            |
| · <b>Kinematic:</b>   | 7 mm <sup>2</sup> /s @ 40 °C (DIN 51562-1) |
| · <b>VOC content:</b>   | 1.5 %                                      |
| · <b>Other information</b>  | No further relevant information available. |

### 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.
- **Additional information:** The product is stable but hygroscopic

### 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· <b>LD/LC50 values that are relevant for classification:</b>
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<b>101-83-7 dicyclohexylamine</b>
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Oral   LD50   373 mg/kg (rat)
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- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:** Sensitization possible through skin contact.
- **Additional toxicological information:**  
The sweet taste can seduce children to drink large quantities; hence keep out of reach of children.  
The product shows the following dangers according to internally approved calculation methods for preparations:  
Irritant

- **Carcinogenic categories**

· <b>IARC (International Agency for Research on Cancer)</b>
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None of the ingredients is listed.
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· <b>NTP (National Toxicology Program)</b>
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None of the ingredients is listed.
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· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

### 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Harmful to fish
- **Additional ecological information:**
- **General notes:**  
*Water hazard class 1 (Self-classification according VwVwS, 17.05.1999): slightly hazardous for water*  
*Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.*  
*Harmful to aquatic organisms*
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

### 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
*Must not be disposed of together with household garbage. Do not allow product to reach sewage system.*
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

### 14 Transport information

- |   |      |
|---|------|
| <ul style="list-style-type: none"> <li>· <b>UN-Number</b></li> <li>· <b>DOT, ADR,ADN, ADN, IMDG, IATA</b></li> </ul>  | Void |
| <ul style="list-style-type: none"> <li>· <b>UN proper shipping name</b></li> <li>· <b>DOT, ADR,ADN, ADN, IMDG, IATA</b></li> </ul>                            | Void |
| <ul style="list-style-type: none"> <li>· <b>Transport hazard class(es)</b></li> <li>· <b>DOT, ADR,ADN, ADN, IMDG, IATA</b></li> <li>· <b>Class</b></li> </ul> | Void |
| <ul style="list-style-type: none"> <li>· <b>Packing group</b></li> <li>· <b>DOT, ADR,ADN, IMDG, IATA</b></li> </ul>   | Void |
| <ul style="list-style-type: none"> <li>· <b>Environmental hazards:</b></li> <li>· <b>Marine pollutant:</b></li> </ul>   | No   |

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- |   |                 |
|---|-----------------|
| <b>· Special precautions for user</b>   | Not applicable. |
| <b>· Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b> | Not applicable. |
| <b>· UN "Model Regulation":</b>   | Void            |

### 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Sara**

**· Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

**· Section 313 (Specific toxic chemical listings):**

None of the ingredients is listed.

**· TSCA (Toxic Substances Control Act):**

111-46-6 | 2,2'-oxybisethanol

101-83-7 | dicyclohexylamine

**· Proposition 65**

**· Chemicals known to cause cancer:**

None of the ingredients is listed.

**· Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

**· Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

**· Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

**· Carcinogenic categories**

**· EPA (Environmental Protection Agency)**

None of the ingredients is listed.

**· TLV (Threshold Limit Value established by ACGIH)**

None of the ingredients is listed.

**· NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### 16 Other information

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.

- **Department issuing SDS:** Abteilung Produktsicherheit

- **Date of preparation / last revision** 03/22/2016 / -

**· Abbreviations and acronyms:**

Acute Tox. 3: Acute toxicity, Hazard Category 3

Acute Tox. 4: Acute toxicity, Hazard Category 4

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*Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B*  
*Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2*  
*Skin Sens. 1: Sensitisation - Skin, Hazard Category 1*  
*STOT RE 2: Specific target organ toxicity - Repeated exposure, Hazard Category 2*  
*Aquatic Acute 1: Hazardous to the aquatic environment - AcuteHazard, Category 1*  
*Aquatic Acute 3: Hazardous to the aquatic environment - AcuteHazard, Category 3*  
*Aquatic Chronic 1: Hazardous to the aquatic environment - Chronic Hazard, Category 1*  
*Aquatic Chronic 2: Hazardous to the aquatic environment - Chronic Hazard, Category 2*  
*Aquatic Chronic 3: Hazardous to the aquatic environment - Chronic Hazard, Category 3*

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