

**BRAKE FLUID DOT 5.1**

Safety Data Sheet

according to Regulation (EC) No. 453/2010

Date of issue: 14/05/2016 Revision date: 31/11/2016 Supersedes: 17/10/2016 Version: 3.0

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

**1.1. Product identifier**

Product form : Mixture

Product name. : BRAKE FLUID DOT 5.1

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

**1.2.1. Relevant identified uses**

Main use category : Professional use

Industrial/Professional use spec. : Used in closed systems

Non-dispersive use

Function or use category : brake fluids

**1.2.2. Uses advised against**

No additional information available

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

(type your address)

**1.4. Emergency telephone number**

 Emergency number :

 (type your emergency phone number)

 (9 AM to 4 PM, Monday to Friday)

**SECTION 2: Hazards identification**

**2.1. Classification of the substance or mixture Classification according to Regulation (EC) No. 1272/2008 [CLP]**

Not classified

**Classification according to Directive 67/548/EEC or 1999/45/EC**

Not classified

**Adverse physicochemical, human health and environmental effects**

No additional information available

**2.2. Label elements**

**Labelling according to Regulation (EC) No. 1272/2008 [CLP]**

Precautionary statements (CLP) : P101 - If medical advice is needed, have product container or label at hand

P102 - Keep out of reach of children

P280 - Wear eye protection

P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P337+P313 - If eye irritation persists: Get medical advice/attention

EUH phrases : EUH210 - Safety data sheet available on request

**2.3. Other hazards**

No additional information available

**SECTION 3: Composition/information on ingredients**

**3.1. Substances**

Not applicable

|  |  |
| --- | --- |
|  | **3.2. Mixture** |
|  |  |
|  | **Name** |  | **Product identifier** | **%** | **Classification according to** |
|  |  |  |  | **Directive 67/548/EEC** |
|  | butoxytriethylene glycol | (CAS No) 143-22-6(EC no) 205-592-6(EC index no) 603-183-00-0(REACH-no) 01-2119531322-53 | < 20 | Xi; R41 |

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Product identifier** | **%** | **Classification according to****Directive 67/548/EEC** |
|  |  |  |
| diethylene glycol | (CAS No) 111-46-6(EC no) 203-872-2(EC index no) 603-140-00-6 | < 10 | Xn; R22 |
| 2-(2-butoxyethoxy)ethanol | (CAS No) 112-34-5(EC no) 203-961-6(EC index no) 603-096-00-8 | < 3 | Xi; R36 |
| 2-(2-methoxyethoxy)ethanol | (CAS No) 111-77-3(EC no) 203-906-6(EC index no) 603-107-00-6 | < 3 | Repr.Cat.3; R63 |

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Product identifier** | **%** | **Classification according to** |
|  |  |  | **Regulation (EC) No.** |
|  |  |  | **1272/2008 [CLP]** |
| butoxytriethylene glycol | (CAS No) 143-22-6 | < 20 | Eye Dam. 1, H318 |
|  | (EC no) 205-592-6 |  |  |
|  | (EC index no) 603-183-00-0 |  |  |
|  | (REACH-no) 01-2119531322-53 |  |  |
| diethylene glycol | (CAS No) 111-46-6(EC no) 203-872-2 | < 10 | Acute Tox. 4 (Oral), H302STOT RE 2, H373 |
|  | (EC index no) 603-140-00-6 |  |  |
| 2-(2-butoxyethoxy)ethanol | (CAS No) 112-34-5 | < 3 | Eye Irrit. 2, H319 |
|  | (EC no) 203-961-6 |  |  |
|  | (EC index no) 603-096-00-8 |  |  |
| 2-(2-methoxyethoxy)ethanol | (CAS No) 111-77-3 | < 3 | Repr. 2, H361d |
|  | (EC no) 203-906-6 |  |  |
|  | (EC index no) 603-107-00-6 |  |  |
| Full text of R-, H- and EUH-phrases: see section 16 |  |  |  |
| **SECTION 4: First aid measures** |  |  |  |

**4.1. Description of first aid measures**

First-aid measures general : Remove/Take off immediately all contaminated clothing.

First-aid measures after inhalation : If inhaled, remove to fresh air and keep at rest in a position comfortable for breathing. Seek medical advice.

First-aid measures after skin contact : After contact with skin, take off immediately all contaminated clothing, and wash immediately

with plenty of water.

First-aid measures after eye contact : In case of eye contact, immediately rinse with clean water for 10-15 minutes. Seek medical

attention if ill effect or irritation develops.

First-aid measures after ingestion : Get immediate medical advice/attention.

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

Symptoms/injuries after inhalation : Not expected to present a significant inhalation hazard under anticipated conditions of normal use.

Symptoms/injuries after skin contact : Not expected to present a significant skin hazard under anticipated conditions of normal use.

Symptoms/injuries after eye contact : Not expected to present a significant eye contact hazard under anticipated conditions of normal use.

Symptoms/injuries after ingestion : Not expected to present a significant ingestion hazard under anticipated conditions of normal use.

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

No additional information available

**SECTION 5: Firefighting measures**

**5.1. Extinguishing media**

Suitable extinguishing media : Carbon dioxide. Powder. Strong water jet. Alcohol resistant foam.

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

No additional information available

**5.3. Advice for firefighters**

Precautionary measures fire : Exercise caution when fighting any chemical fire. Firefighting instructions : Use water spray or fog for cooling exposed containers.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

**SECTION 6: Accidental release measures**

**6.1. Personal precautions, protective equipment and emergency procedures**

**6.1.1. For non-emergency personnel**

Protective equipment : Wear suitable protective clothing and gloves.

**6.1.2. For emergency responders**

Protective equipment : Wear suitable protective clothing and gloves.

**6.2. Environmental precautions**

Prevent entry to sewers and public waters. Notify authorities if product enters sewers or public waters.

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

For containment : Impound and recover large spill by mixing it with inert granular solids.

Methods for cleaning up : Detergent. Take up liquid spill into absorbent material sand, saw dust, kieselguhr. Other information : Spill area may be slippery. Use suitable disposal containers.

**6.4. Reference to other sections**

No additional information available

**SECTION 7: Handling and storage**

**7.1. Precautions for safe handling**

Precautions for safe handling : Avoid all unnecessary exposure. Both local exhaust and general room ventilation are usually required.

Handling temperature : < 40 °C

Hygiene measures : Wash hands and other exposed areas with mild soap and water before eat, drink or smoke and

when leaving work.

**7.2. Conditions for safe storage, including any incompatibilities**

Storage temperature : < 40 °C

Storage area : Store in dry, cool, well-ventilated area.

**7.3. Specific end use(s)**

No additional information available

**SECTION 8: Exposure controls/personal protection**

**8.1. Control parameters**

No additional information available

**8.2. Exposure controls**

Personal protective equipment : Safety glasses. Gloves.

Hand protection : Wear suitable gloves resistant to chemical penetration. butyl rubber gloves. Eye protection : Safety glasses.

Skin and body protection : No special clothing/skin protection equipment is recommended under normal conditions of use.

Respiratory protection : No special respiratory protection equipment is recommended under normal conditions of use with adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment.

**SECTION 9: Physical and chemical properties**

**9.1. Information on basic physical and chemical properties** Physical state : Liquid Appearance : Liquid.

Colour : clear. amber.

Odour : Characteristic. Odour threshold : No data available

pH : 7 - 11,5 SAE J 1703, SAE J 1704

Relative evaporation rate (butylacetate=1) : No data available

Melting point : -50 °C SAE J1703

Freezing point : < °C

Boiling point : > 260 °C SAE J1703

Flash point : > 120 °C IP35

Self ignition temperature : > 300 °C ASTM D286

Decomposition temperature : > 300 °C Flammability (solid, gas) : No data available Vapour pressure : < 2 mbar @20 °C

Relative vapour density at 20

°C Relative density

Density Solubility Log Pow

Viscosity, kinematic Viscosity, dynamic Explosive properties Oxidising properties Explosive limits

**9.2. Other information**

No additional information available

**SECTION 10: Stability and reactivity**

**10.1. Reactivity**

None under normal conditions.

**10.2. Chemical stability**

Stable under normal conditions.

**10.3. Possibility of hazardous reactions**

None under normal conditions.

**10.4. Conditions to avoid**

No data available.

**10.5. Incompatible materials**

Strong oxidizers. acids. Bases.

**10.6. Hazardous decomposition products**

None under normal conditions.

: No data available

: No data available

: 1,03 - 1,09 kg/m³ DIN 51757

: Complete.

: < 2

: 5 - 10 cSt @ 20°C ASTM D445

: No data available

: No data available

: No data available

: No data available

**SECTION 11: Toxicological information**

**11.1. Information on toxicological effects**

Acute toxicity : Not classified

|  |  |
| --- | --- |
| **BRAKE FLUID DOT 5.1** |  |
| LD50 oral rat | > 5000 mg/kg |
| LD50 dermal rabbit | > 3000 mg/kg |

|  |  |  |  |
| --- | --- | --- | --- |
|  | **diethylene glycol (111-46-6)** |  |  |
| ATE (oral) | 500,000 mg/kg bodyweight |

Skin corrosion/irritation : Not classified

pH: 7 - 11,5 SAE J 1703, SAE J 1704

Serious eye damage/irritation : Not classified (Based on available data, the classification criteria are not met)

pH: 7 - 11,5 SAE J 1703, SAE J 1704

Respiratory or skin sensitisation : Not classified Germ cell mutagenicity : Not classified Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated : Not classified exposure)

Aspiration hazard : Not classified

|  |
| --- |
| **SECTION 12: Ecological information** |
|  |
| **12.1. Toxicity** |  |

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| --- | --- |
| **BRAKE FLUID DOT 5.1** |  |
| LC50 fishes 1 | > 100 mg/l Oncorhynchus Mykiss) |

**12.2. Persistence and degradability**

**BRAKE FLUID DOT 5.1**

Biodegradation 100 % OECD 302B @21d

|  |
| --- |
| **12.3. Bioaccumulative potential** |
| **BRAKE FLUID DOT 5.1** |  |
| Log Pow | < 2 |

**12.4. Mobility in soil**

No additional information available

**12.5. Results of PBT and vPvB assessment**

No additional information available

**12.6. Other adverse effects**

No additional information available

**SECTION 13: Disposal considerations**

**13.1. Waste treatment methods**

Additional information : Dispose in a safe manner in accordance with local/national regulations.

**SECTION 14: Transport information**

In accordance with ADR / RID / ADNR / IMDG / ICAO / IATA

**14.1. UN number**

No dangerous good in sense of transport regulations

**14.2. UN proper shipping name**

Not applicable

**14.3. Transport hazard class(es)**

Not applicable

**14.4. Packing group**

Not applicable

**14.5. Environmental hazards**

Other information : No supplementary information available.

**14.6. Special precautions for user**

**14.6.1. Overland transport**

No additional information available

**14.6.2. Transport by sea**

No additional information available

**14.6.3. Air transport**

No additional information available

**14.6.4. Inland waterway transport**

No additional information available

**14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable

**SECTION 15: Regulatory information**

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

**15.1.1. EU-Regulations**

No REACH Annex XVII restrictions

Contains no REACH candidate substance

**15.1.2. National regulations**

No additional information available

**15.2. Chemical safety assessment**

No additional information available

**SECTION 16: Other information**

Other information : The information in this SDS was obtained from sources which we believe are reliable. However,

the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our

control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This MSDS was prepared and is to be used only for this product. If the product is used as a component in

another product, this MSDS information may not be applicable.

Full text of R-, H- and EUH-phrases::

|  |  |
| --- | --- |
| Acute Tox. 4 (Oral) | Acute toxicity (oral) Category 4 |
| Eye Dam. 1 | Serious eye damage/eye irritation Category 1 |
| Eye Irrit. 2 | Serious eye damage/eye irritation Category 2 |
| Repr. 2 | Reproductive toxicity Category 2 |
| STOT RE 2 | Specific target organ toxicity (repeated exposure) Category 2 |
| H302 | Harmful if swallowed |
| H318 | Causes serious eye damage |
| H319 | Causes serious eye irritation |
| H361d | Suspected of damaging the unborn child |
| H373 | May cause damage to organs through prolonged or repeated exposure |
| R22 | Harmful if swallowed |
| R36 | Irritating to eyes |
| R41 | Risk of serious damage to eyes |
| R63 | Possible risk of harm to the unborn child |
| Xi | Irritant |
| Xn | Harmful |

SDS EU (REACH Annex II)

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.*