Castrol Brake Fluid DOT 4

DOT 4 Brake fluid

Description
Castrol Brake Fluid DOT 4 is a high boiling synthetic brake fluid which far exceeds the requirements of the SAE J1703, SAE J1704, FMVSS 116 DOT 4, ISO 4925 and JIS K 2233 specifications.

Castrol Brake Fluid DOT 4 is designed for use in all brake systems particularly those which are exposed to extreme conditions.

Application
This product has been formulated from mixed polyalkylene glycol ethers and borate esters together with other high performance additives and inhibitors which give ultimate system protection against the effects of corrosion and high temperature vapour lock.

The formulation has been developed such that the vapour lock point can be sustained at a higher level than conventional glycol ether based fluids during the service life of the product.

Castrol Brake Fluid DOT 4 is fully compatible with other fluids meeting FMVSS 116 DOT 3 and DOT 4 however, in order to maintain the superior performance characteristics of Castrol Brake Fluid DOT 4, avoid mixing with other brake fluid products.

All conventional brake fluids deteriorate during use. It is strongly recommended that Castrol Brake Fluid DOT 4 should be changed according to the vehicle manufacturers advice. In the absence of such advice, a 2 year change period is recommended.

As with all brake fluids which contain glycol ethers, care should be taken to avoid spilling this product on paintwork as it may have a damaging effect. In the case of spillage rinse the affected area with water immediately. Do not wipe.

Conditions of Use
Castrol Brake Fluid DOT 4 should not be used in braking systems for which a mineral oil based fluid is recommended (for example some Citreon systems for which Castrol LHM Plus is suitable and Rolls Royce vehicles for which Castrol CHSMO Plus is approved.)
**Typical Characteristics**

<table>
<thead>
<tr>
<th>Name</th>
<th>Method</th>
<th>Units</th>
<th>Brake Fluid DOT 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Visual</td>
<td></td>
<td>Clear and bright yellow liquid</td>
</tr>
<tr>
<td>Density at 20°C</td>
<td>IP 160</td>
<td>g/ml</td>
<td>1.07</td>
</tr>
<tr>
<td>Equilibrium Reflux Boiling Point (ERBP)</td>
<td>ASTM D1120</td>
<td>°C</td>
<td>250 min</td>
</tr>
<tr>
<td>Kinematic Viscosity at -40°C</td>
<td>IP 71</td>
<td>mm²/s</td>
<td>typically 1200</td>
</tr>
<tr>
<td>Wet Equilibrium Reflux Boiling Point</td>
<td>SAE J1703</td>
<td>°C</td>
<td>155 min</td>
</tr>
<tr>
<td>pH</td>
<td>SAE J1703</td>
<td>pH</td>
<td>7.3</td>
</tr>
<tr>
<td>Kinematic Viscosity at 100°C</td>
<td>ASTM D445</td>
<td>mm²/s</td>
<td>2.3</td>
</tr>
</tbody>
</table>

The above figures are obtained with normal production tolerance and do not constitute a specification.

**Product Performance Claims**

JIS K2233  
SAE J1703  
SAE J1704  
ISO 4925 Class 4  
FMVSS DOT 4

**Storage**

All packages should be stored under cover. Where outside storage is unavoidable drums should be laid horizontally to avoid the possible ingress of water and damage to drum markings. Products should not be stored above 60°C, exposed to hot sun or freezing conditions.
Section 1. Identification

Product name: Castrol Brake Fluid DOT 4
SDS #: 466630
Code: 466630-AE02 AE05 GB13 IN12 MY01 MY03 TH01 US65 X101

Relevant identified uses of the substance or mixture and uses advised against
Product use: Brake fluids. For specific application advice see appropriate Technical Data Sheet or consult our company representative.

Section 2. Hazards identification

OSHA/HCS status: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture: SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

GHS label elements
Hazard pictograms

Signal word: Warning
Hazard statements: May cause damage to organs through prolonged or repeated exposure.
Precautionary statements
General: Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.
Prevention: Do not breathe vapor.
Response: Get medical attention if you feel unwell.
Storage: Not applicable.
Disposal: Dispose of contents and container in accordance with all local, regional, national and international regulations.
Hazards not otherwise classified: None known.
Section 3. Composition/information on ingredients

polyethylene glycol Proprietary performance additives.

Substance/mixture: Mixture

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>ethanol, 2-butoxy-, manufacture of, by-products from</td>
<td>161907-77-3</td>
<td>10-15</td>
</tr>
<tr>
<td>2,2’-oxybisethanol</td>
<td>111-46-6</td>
<td>5-10</td>
</tr>
<tr>
<td>Di-isopropanolamine</td>
<td>110-97-4</td>
<td>1-5</td>
</tr>
</tbody>
</table>

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact
In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Check for and remove any contact lenses. Get medical attention if symptoms occur.

Skin contact
In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if symptoms occur.

Inhalation
In case of inhalation of decomposition products in a fire, symptoms may be delayed. If inhaled, remove to fresh air. The exposed person may need to be kept under medical surveillance for 48 hours. Get medical attention if symptoms occur.

Ingestion
Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Get medical attention if adverse health effects persist or are severe.

Protection of first-aiders
No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

Most important symptoms/effects, acute and delayed
See Section 11 for more detailed information on health effects and symptoms.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician
In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. Treatment should in general be symptomatic and directed to relieving any effects.

Specific treatments
No specific treatment.

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media
In case of fire, use foam, dry chemical or carbon dioxide extinguisher or spray.

Unsuitable extinguishing media
Do not use water jet.

Specific hazards arising from the chemical
In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous combustion products
Combustion products may include the following:
carbon dioxide
carbon monoxide
nitrogen oxides
### Section 5. Fire-fighting measures

**Special protective actions for fire-fighters**
- Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- Fire-fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.

### Section 6. Accidental release measures

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

**For non-emergency personnel**
- No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Put on appropriate personal protective equipment. Floors may be slippery; use care to avoid falling. Contact emergency personnel.

**For emergency responders**
- Entry into a confined space or poorly ventilated area contaminated with vapor, mist or fume is extremely hazardous without the correct respiratory protective equipment and a safe system of work. Wear self-contained breathing apparatus. Wear a suitable chemical protective suit. Chemical resistant boots. See also the information in "For non-emergency personnel".

**Environmental precautions**
- Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

**Methods and materials for containment and cleaning up**

**Small spill**
- Stop leak if without risk. Move containers from spill area. Absorb with an inert material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

**Large spill**
- Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Contaminated absorbent material may pose the same hazard as the spilled product. Dispose of via a licensed waste disposal contractor.

### Section 7. Handling and storage

**Precautions for safe handling**

**Protective measures**
- Put on appropriate personal protective equipment (see Section 8). Avoid contact with eyes, skin and clothing. Do not ingest. Empty containers retain product residue and can be hazardous. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Do not reuse container. Do not breathe vapor or mist.

**Advice on general occupational hygiene**
- Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Wash thoroughly after handling. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

**Conditions for safe storage, including any incompatibilities**
- Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Store and use only in equipment/containers designed for use with this product. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. DO NOT ADD NITRITES TO THIS FLUID.

**Not suitable**
- Prolonged exposure to elevated temperature
Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Exposure limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,2'-oxybisethanol</td>
<td>AIHA WEEL (United States). TWA: 10 mg/m³ 8 hours. Issued/Revised: 1/1999</td>
</tr>
</tbody>
</table>

While specific OELs for certain components may be shown in this section, other components may be present in any mist, vapor or dust produced. Therefore, the specific OELs may not be applicable to the product as a whole and are provided for guidance only.

Appropriate engineering controls

All activities involving chemicals should be assessed for their risks to health, to ensure exposures are adequately controlled. Personal protective equipment should only be considered after other forms of control measures (e.g. engineering controls) have been suitably evaluated. Personal protective equipment should conform to appropriate standards, be suitable for use, be kept in good condition and properly maintained. Your supplier of personal protective equipment should be consulted for advice on selection and appropriate standards. For further information contact your national organisation for standards.

Provide exhaust ventilation or other engineering controls to keep the relevant airborne concentrations below their respective occupational exposure limits.

The final choice of protective equipment will depend upon a risk assessment. It is important to ensure that all items of personal protective equipment are compatible.

Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

Safety glasses with side shields.

Skin protection

Hand protection

Wear protective gloves if prolonged or repeated contact is likely. Wear chemical resistant gloves. Recommended: Butyl gloves. Neoprene gloves. The correct choice of protective gloves depends upon the chemicals being handled, the conditions of work and use, and the condition of the gloves (even the best chemically resistant glove will break down after repeated chemical exposures). Most gloves provide only a short time of protection before they must be discarded and replaced. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Gloves should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

Consult your supervisor or Standard Operating Procedure (S.O.P) for special handling instructions.

Body protection

Use of protective clothing is good industrial practice. Cotton or polyester/cotton overalls will only provide protection against light superficial contamination that will not soak through to the skin. Overalls should be laundered on a regular basis. When the risk of skin exposure is high (e.g. when cleaning up spillages or if there is a risk of splashing) then chemical resistant aprons and/or impervious chemical suits and boots will be required. Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Section 8. Exposure controls/personal protection

**Respiratory protection**
In case of insufficient ventilation, wear suitable respiratory equipment. The correct choice of respiratory protection depends upon the chemicals being handled, the conditions of work and use, and the condition of the respiratory equipment. Safety procedures should be developed for each intended application. Respiratory protection equipment should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

Section 9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physical state</strong></td>
<td>Liquid.</td>
</tr>
<tr>
<td><strong>Color</strong></td>
<td>Yellow.</td>
</tr>
<tr>
<td><strong>Odor</strong></td>
<td>Characteristic.</td>
</tr>
<tr>
<td><strong>Odor threshold</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>7.5 to 9</td>
</tr>
<tr>
<td><strong>Melting point</strong></td>
<td>&lt;-70°C (&lt;-94°F)</td>
</tr>
<tr>
<td><strong>Boiling point</strong></td>
<td>&gt;260°C (&gt;500°F)</td>
</tr>
<tr>
<td><strong>Flash point</strong></td>
<td>Closed cup: &gt;125°C (&gt;257°F) [Pensky-Martens.]</td>
</tr>
<tr>
<td><strong>Evaporation rate</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Flammability (solid, gas)</strong></td>
<td>Not applicable. Based on - Physical state</td>
</tr>
<tr>
<td><strong>Lower and upper explosive (flammable) limits</strong></td>
<td>Lower: 1.5%</td>
</tr>
<tr>
<td><strong>Vapor pressure</strong></td>
<td>&lt;0.133 kPa (&lt;1 mm Hg) at 20°C</td>
</tr>
<tr>
<td><strong>Vapor density</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Density</strong></td>
<td>1065 kg/m³ (1.065 g/cm³) at 20°C</td>
</tr>
<tr>
<td><strong>Solubility</strong></td>
<td>Soluble in water.</td>
</tr>
<tr>
<td><strong>Partition coefficient: n-octanol/water</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Auto-ignition temperature</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Decomposition temperature</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Viscosity</strong></td>
<td>Kinematic: 16 mm²/s (16 cSt) at 20°C</td>
</tr>
</tbody>
</table>

Section 10. Stability and reactivity

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Reactivity</strong></td>
<td>No specific test data available for this product. Refer to Conditions to avoid and Incompatible materials for additional information.</td>
</tr>
<tr>
<td><strong>Chemical stability</strong></td>
<td>The product is stable.</td>
</tr>
<tr>
<td><strong>Possibility of hazardous reactions</strong></td>
<td>Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous polymerization will not occur.</td>
</tr>
<tr>
<td><strong>Conditions to avoid</strong></td>
<td>Avoid all possible sources of ignition (spark or flame).</td>
</tr>
<tr>
<td><strong>Incompatible materials</strong></td>
<td>Miscible in water. Do not use in brake systems requiring mineral oil. On contact these fluids will soften and may lift industrial coatings and paints.</td>
</tr>
<tr>
<td></td>
<td>Reactive or incompatible with the following materials: strong acids Strong oxidizing materials</td>
</tr>
<tr>
<td><strong>Hazardous decomposition products</strong></td>
<td>Under normal conditions of storage and use, hazardous decomposition products should not be produced.</td>
</tr>
</tbody>
</table>
Section 11. Toxicological information

Information on toxicological effects

Specific target organ toxicity (repeated exposure)

<table>
<thead>
<tr>
<th>Name</th>
<th>Category</th>
<th>Route of exposure</th>
<th>Target organs</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,2’-oxybisethanol</td>
<td>Category 2</td>
<td>Oral</td>
<td>kidneys</td>
</tr>
</tbody>
</table>

Information on the likely routes of exposure

Potential acute health effects

- **Eye contact**: No known significant effects or critical hazards.
- **Skin contact**: No known significant effects or critical hazards.
- **Inhalation**: Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
- **Ingestion**: No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

- **Eye contact**: No specific data.
- **Skin contact**: No specific data.
- **Inhalation**: May be harmful by inhalation if exposure to vapor, mists or fumes resulting from thermal decomposition products occurs.
- **Ingestion**: No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

- **Short term exposure**
  - Potential immediate effects: Not available.
  - Potential delayed effects: Not available.

- **Long term exposure**
  - Potential immediate effects: Not available.
  - Potential delayed effects: Not available.

Potential chronic health effects

- **General**: May cause damage to organs through prolonged or repeated exposure.
- **Carcinogenicity**: No known significant effects or critical hazards.
- **Mutagenicity**: No known significant effects or critical hazards.
- **Teratogenicity**: No known significant effects or critical hazards.
- **Developmental effects**: No known significant effects or critical hazards.
- **Fertility effects**: No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

<table>
<thead>
<tr>
<th>Route</th>
<th>ATE value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>5050.5 mg/kg</td>
</tr>
</tbody>
</table>

Other information

Diethylene glycol: This product contains diethylene glycol which has been reported to cause CNS depression, kidney and liver damage when ingested. Diethylene glycol has also been reported to cause developmental effects in laboratory animals at maternally toxic doses, and reproductive effects in laboratory animals at high doses.
Section 11. Toxicological information

Additional information
Alkanolamine: This product contains an alkanolamine. In all metalworking fluids containing amines, there is a potential for forming nitrosamines which are animal carcinogens. Therefore, no nitrates or related nitrosating agents should be added to such compositions.

Section 12. Ecological information

Toxicity
No testing has been performed by the manufacturer.

Persistence and degradability
Expected to be biodegradable.

Bioaccumulative potential
This product is not expected to bioaccumulate through food chains in the environment.

Mobility in soil
Mobility
Spillages may penetrate the soil causing ground water contamination.

Other adverse effects
No known significant effects or critical hazards.

Other ecological information
Miscible in water.

Section 13. Disposal considerations

Disposal methods
The generation of waste should be avoided or minimized wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

<table>
<thead>
<tr>
<th></th>
<th>DOT Classification</th>
<th>TDG Classification</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN proper shipping name</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Transport hazard class(es)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Packing group</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Environmental hazards</td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
</tr>
</tbody>
</table>
Section 14. Transport information

| Additional information | - | - | - | - |

Special precautions for user

Not available.

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

Not available.

Section 15. Regulatory information

U.S. Federal regulations

United States inventory (TSCA 8b)

All components are listed or exempted.

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 311/312

Classification

Immediate (acute) health hazard

Delayed (chronic) health hazard

SARA 313

<table>
<thead>
<tr>
<th>Product name</th>
<th>CAS number</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form R - Reporting requirements</td>
<td>Glycol ethers</td>
<td>-</td>
</tr>
<tr>
<td>Supplier notification</td>
<td>Glycol ethers</td>
<td>-</td>
</tr>
</tbody>
</table>

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations

Massachusetts

The following components are listed: DIISOPROPANOLAMINE

New Jersey

None of the components are listed.

Pennsylvania

The following components are listed: ETHANOL, 2,2’-OXYBIS-; 2-PROPANOL, 1,1’-IMINOBIS-

California Prop. 65

California Prop 65: No products were found

Other regulations

Australia inventory (AICS)

At least one component is not listed.

Canada inventory

All components are listed or exempted.

China inventory (IECSC)

All components are listed or exempted.

Japan inventory (ENCS)

All components are listed or exempted.

Korea inventory (KECI)

All components are listed or exempted.

Philippines inventory (PICCS)

All components are listed or exempted.

REACH Status

The company, as identified in Section 1, sells this product in the EU in compliance with the current requirements of REACH.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

| Health | 2 |
| Flammability | 1 |
| Physical hazards | 0 |
| Personal protection | X |
Section 16. Other information

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on SDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA).

National Fire Protection Association (U.S.A.)

Flammability 1
Health 2
Instability/Reactivity 0
Special

History
Date of issue/Date of revision 03/31/2014.
Date of previous issue No previous validation.

Key to abbreviations
ACGIH = American Conference of Industrial Hygienists
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
CAS Number = Chemical Abstracts Service Registry Number
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
OEL = Occupational Exposure Limit
SDS = Safety Data Sheet
STEL = Short term exposure limit
TWA = Time weighted average
UN = United Nations
UN Number = United Nations Number, a four digit number assigned by the United Nations Committee of Experts on the Transport of Dangerous Goods.

Indicates information that has changed from previously issued version.

Notice to reader
All reasonably practicable steps have been taken to ensure this data sheet and the health, safety and environmental information contained in it is accurate as of the date specified below. No warranty or representation, express or implied is made as to the accuracy or completeness of the data and information in this data sheet.

The data and advice given apply when the product is sold for the stated application or applications. You should not use the product other than for the stated application or applications without seeking advice from BP Group.

It is the user’s obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. The BP Group shall not be responsible for any damage or injury resulting from use, other than the stated product use of the material, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the material. Purchasers of the product for supply to a third party for use at work, have a duty to take all necessary steps to ensure that any person handling or using the product is provided with the information in this sheet. Employers have a duty to tell employees and others who may be affected of any hazards described in this sheet and of any precautions that should be taken. You can contact the BP Group to ensure that this document is the most current available. Alteration of this document is strictly prohibited.