

DOT 4 Brake Fluid

Safety Data Sheet

According to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012.

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Date of issue: 3/23/2015

Revision date: 3/23/2015

Version: 1.0

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

1.1. Product identifier

Product name : DOT 4 Brake Fluid
Product code : BF-14

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

Use of the substance/mixture : Disk and drum hydraulic brake fluid.

1.3. Details of the supplier of the safety data sheet

Justice Brothers, Inc.
2734 Huntington Drive
Duarte, CA - USA
91010
T (626) 359-9174 (M-F, 8am-5pm PST)

1.4. Emergency telephone number

Emergency number : CHEMTREC International +1 (703) 527-3887 24 hr.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Skin Irritation—Category 2
Eye Irritation—Category 2A

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US) :



Signal word (GHS-US) : Warning

Hazard statements (GHS-US) : Harmful if swallowed. Causes mild skin irritation. Causes serious eye irritation.

Precautionary statements (GHS-US) : Wear eye and skin protection before handling. Do not breathe mist/vapors/spray. Use in a well ventilated area. Wear protective gloves/protective clothing. IF IN EYES: Flush with water for 15 minutes and consult a physician. Do not ingest. IF SWALLOWED: Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician.

2.3. Other hazards and disposal information

Combustible liquid. Repeated exposure may cause dryness of the skin. Vapors may cause respiratory irritation. Keep out of waterways. Check local, national, and international regulations for proper disposal.

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	%	GHS-US classification
Triethylene Glycol Monomethyl Borate Ester	(CAS No) 71243-41-9	30-60	
Triethylene Glycol Monomethyl Ether	(CAS No) 112-35-6	20-40	
Polyethylene Glycol Monomethyl Ether	(CAS No) 9004-74-4	7-13	
Diethylene Glycol	(CAS No) 111-45-6	7-13	
Triethylene Glycol Monobutyl Ether	(CAS No) 143-22-6	5-10	
Additives	Proprietary	<1	

The exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of §1910.1200.

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SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after eye contact	: Remove contact lenses, if worn. Rinse with running water for at least 15 minutes, lifting upper and lower eyelids occasionally. Seek medical attention.
First-aid measures after skin contact	: Remove affected clothing and laundry before use. Wash affected area for at least 15 minutes with soap and running water. Prolonged or repeated exposure may cause defatting of the skin—symptoms include redness, dryness, cracking.
First-aid measures after inhalation	: Remove exposed person to fresh air immediately. Restore or assist breathing if necessary. Get medical attention immediately if symptoms of CNS depression or intoxication develop.
First-aid measures after ingestion	: Do NOT induce vomiting. If conscious give two full glasses of water. If a significant volume has been swallowed, get medical attention immediately.

4.2. Target organs and Physician recommendations

Target organs	: Kidney, liver, central nervous system.
Physician Recommendations	: Not determined. Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: For small fires use alcohol foam, Dry Chemical, CO ₂ . For large fires apply large (flooding) quantities of water from as far away as possible in a spray or mist.
Unsuitable extinguishing media	: Water jet may be ineffective.

5.2. Special hazards arising from the substance or mixture

Unusual Hazards	: Not determined
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5.3. Advice for firefighters

Firefighting Procedures	: Wear a self-contained breathing apparatus if necessary based on concentrations of smoke. Material will produce primarily oxides of carbon as combustion products.
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SECTION 6: Accidental release measures

6.1. Spills

Personal precautions, protective equipments and emergency procedures	: Ventilate if released in a confined area. Avoid breathing mists/vapors/spray. Product may present slipping hazard if left on the floor. Beware of vapors pooling in low areas to explosive concentrations
Environmental Precautions	: Avoid release to the environment. Prevent from entering into soil, ditches, sewers, waterways or groundwater.
Methods for removal	: Use an explosion-proof pump to remove bulk liquid. Residual liquid can be absorbed on inert material. Dispose of contaminated adsorbent as hazardous waste. Wash the area with water after excess product and adsorbent is removed.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	: Do not store or handle at elevated temperatures. Maximum handling temperature is not determined.
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7.2. Procedures for safe handling and storage

Procedures : Use in a well ventilated area. Avoid breathing mists/vapors/spray. Avoid handling hot product where possible. Use appropriate personal protective equipment to avoid contact with skin and eyes. Note the locations of nearest emergency shower and eye wash station before use. Store with the lid tightly closed in a cool, dry, well-ventilated place. Product is hygroscopic and effectiveness may diminish if opened product is stored for long periods of time. Dispose of spilled or used material in accordance with local, regional, national, and international regulations.

7.3. Special Precautions

None determined.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Diethylene Glycol (CAS No) 111-46-6

OSHA TWA (mg/m3)

10

8.2. Exposure controls and Personal Protective Equipment

Appropriate engineering controls : Used in a well ventilated area. Local and general ventilation should keep methanol vapor concentration below permissible limits. Where exposure potential exceeds recommended limits, use a NIOSH/OSHA approved supplied air respirator as recommended. Vapors are heavier than air and will tend to accumulate in low-lying areas.

Respiratory protection : Use a NIOSH or CEN approved full-face respirator with multi-purpose combination or type ABEK respirator cartridges as a backup to engineering controls. If the respiratory is the only means of protection, use a full-face supplied air respirator.

Eye protection : Use tightly-fitting chemical splash goggles. Use face shield, especially where splashing is likely to occur.

Skin and body protection : Use nitrile, butyl, viton, or fluorelastemer gloves. Even appropriate materials may degrade after prolonged exposure with product. Use chemical resistant pants and jackets, preferably of butyl or nitrile rubber.

Other precautions : Locate the nearest eyewash station and safety shower before handling this product. Limit exposure whenever possible. Wash thoroughly after handling this product.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance : Clear, liquid.

Color : Pale yellow.

Odor : Mild, sweet odor.

Odor threshold : Not determined.

pH : 7-11.

Relative evaporation rate (butyl acetate=1) : No data available.

Melting point : <-50°C/-58°F.

Freezing point : No data available.

Boiling point : >232°C/449°F.

Flash point : 121°C/250°F

Self ignition temperature : 310°C/590°F.

Decomposition temperature : Not determined.

Flammability Limits : Not determined.

Vapor pressure : 0.09 hPa (0.07 mmHg) @20°C (68°F).

Vapor density : >5 (Air=1).

Density : 1.06mg/cm³ @ 15.6°C

Solubility : Negligible.

Log Pow : No data available.

Log Kow : Not determined.

Viscosity : 1.8 mm/s2 @100°C.

Viscosity, dynamic : No data available.

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Explosive properties	: No data available.
Oxidizing properties	: No data available.
Explosive limits	: No data available.

9.2. Other information

50.5% VOC.

SECTION 10: Stability and reactivity

10.1. Stability

Material is normally stable at ambient temperatures and pressures.

10.2. Hazardous Polymerization

Will not occur.

10.3. Conditions to avoid

Vapors may catch fire—keep away from strong oxidizers, acids, bases as well as heat/sparks/open flames/ hot surfaces.

10.4. Incompatible materials

Keep away from strong oxidizers and strong acids/bases. Keep away from zinc or other active metals.

10.5. Hazardous decomposition products

Primarily oxidized to carbon dioxide in normal combustion conditions. In lower oxygen environments carbon monoxide, formaldehyde, or formic acid may be formed. Decomposition temperature is not determined.

SECTION 11: Toxicological information

11.1. Acute Exposure

Eye irritation	: Expected to cause mild to moderate irritation of the eye if exposed to liquid or in high vapor concentrations. May cause irritation, tearing or burning of the eye.
Skin irritation	: Expected to be mildly irritating to the skin. Symptoms of irritation may include redness, drying and cracking of the skin.
Respiratory Irritation	: High vapor concentrations may cause transient irritation to the respiratory system.
Dermal Toxicity	: This product can be absorbed through the skin, but is of low order of toxicity. Limit exposure mode is far less likely to occur.
Inhalation Toxicity	: Toxicity is similar to that for oral ingestion, though this exposure mode is far less likely to occur.
Oral toxicity	: Low order of toxicity, not expected to cause injury under normal exposure conditions. If a large amount of material is swallowed, target organ effects and metabolic acidosis may occur.
Aspiration Hazard	: This product has a very low viscosity and may be fatal if aspirated into airway. Do NOT induce vomiting, as this increases the risk of aspiration.

11.2. Chronic Exposure

Chronic toxicity	: This product may cause dryness or defatting of the skin, dermatitis, or may aggravate existing skin conditions.
Carcinogenicity	: This product and its components are NOT listed by the IARC, NTP, ACGIH, or OSHA as carcinogens
Mutagenicity	: Available information does not suggest that this product is a germ cell mutagen
Reproductive toxicity	: Available information does not suggest that this product is a reproductive toxin.
Teratogenicity	: Diethylene glycol has produced birth defects in rats at concentrations that are toxic to the mother.

11.3. Additional Information

Target organ toxicity)	: Product is toxic to organs: kidneys, liver, central nervous system, heart. Metabolic products of diethylene glycol produce acidosis and organ toxicity effects. In some cases, other metabolic abnormalities have been reported such as hyponatremia and hyperkalemia leading to nerve and cardiac damage.
Synergistic effects	: Though specific data is not available, ethanol is a competing substrate for NAD-dependent alcohol dehydrogenase and may slow the product of harmful metabolic products of diethylene glycol.
Pharmacokinetics	: No data available.

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SECTION 12: Ecological information

12.1. Environmental Toxicity

Freshwater Fish	: Acute LD50> 590 mg/L (96h).
Freshwater Invertebrates	: Acute LD50> 10g/l (48h)
Algae	: Not determined.
Saltwater Fish	: Not determined.
Saltwater Invertebrates	: Not determined.
Bacteria	: Not determined.
Miscellaneous	: Not determined.

12.2. Environmental Fate

Biodegradation	: No data available. Expected to biodegrade rapidly and degrade by photo-oxidative reactions with the air.
Bioaccumulation	: Product is very mobile in soil and water and is somewhat volatile—it is not expected to bioaccumulate.
Soil Mobility	: Product has a high mobility in soil, slowly evaporates at environmentally relevant temperatures.
Other Effects	: Not determined.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal Considerations	: All disposal practices must be in accordance with local, regional, national, and international regulations. Store material for disposal as indicated in Section 7. Disposal by controlled incineration or by secure land fill may be acceptable—review applicable regulations or regulatory bodies before making disposal decisions.
Contaminated Containers or Packaging	: Empty containers are likely to contain flammable vapors or explosive mixtures of vapor and air. Do NOT weld, cut, or grind empty containers. Rinse empty containers with water and dispose of in accordance with local, regional, national, and international regulations.

SECTION 14: Transport information

Description shown may not apply to all shipping situations. Consult applicable shipping codes to determine any additional shipping requirements.

14.1. US DOT

Not dangerous goods.

14.2. IMDG

Not dangerous goods.

14.3. ICAO/IATA

Not dangerous goods.

SECTION 15: Regulatory information

15.1. Federal regulations

USA	: All components of the material are on the US TSCA.
Other TSCA Reg.	: None known.
EU	: Components of this product and similar mixtures are registered under REACH. Consult the European Chemicals Agency regarding REACH registration, reporting and other legal requirements for methanol solutions before importing to the EU.
New Zealand	: May require notifications before sale under New Zealand Regulations.
Canada	: All components of this product are listed on the Canadian Domestic Substances List (DSL).
Canada WHMIS	: B3.

15.2. Other U.S. Federal Regulations

SARA Ext. Hazardous Substances	: No components listed as Extremely Hazardous Substances list. See 40 CFR 355.
SARA Sect.313	: Triethylene glycol monobutyl ether (CAS# 143-22-6) and triethylene glycol monomethyl ether (CAS # 112-35-6) are subject to reporting under SARA Title III, Section 313. See 40 CFR 372.
SARA 311/312 Class	: Acute Hazard--YES. Chronic Hazard—YES. Fire Hazard—YES. Reactivity Hazard—NO.
CERCLA Hazardous Substances	: No components listed. See 40 CFR 302.

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15.3. US State regulations

Right to Know Component	Right to Know States
Triethylene glycol monobutyl ether (CAS# 143-22-6)	NJ, PA
Triethylene glycol monomethyl borate ester (CAS# 71243-41-9)	NJ, PA
Triethylene glycol monomethyl ether (CAS#143-22-6)	NJ, PA
Tetraethylene glycol (CAS#112-60-7)	NJ, PA

16: Other Information

Indication of Changes : This is the first revision of this SDS format, changes from previous revision not applicable.
Date of Issue : 3/23/2015
Other Information : Not determined.

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

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