

# MATERIAL SAFETY DATA SHEET

Trade Name: Johnsens DOT 4 Brake Fluid  
MSDS NO. 5034  
Revision Date: 05/21/2003  
Date Printed: 06/21/2004

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## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Trade Name: Johnsens DOT 4 Brake Fluid  
Chemical Family: Glycol Ethers and Alkyl Ethers  
Synonyms: Dow 460 Brake Fluid  
Emergency Telephone (24 hr.): CHEMTREC 1-800-424-9300 During normal business hours CST 817-645-6088.

Supplier: Technical Chemical Company, P.O. Box 139, Cleburne, Texas 76033

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient/CAS No.	wt. %	OSHA PEL TWA	OSHA PEL Ceiling Limits	ACGIH TLV TWA	ACGIH TLV STEL
Alkyl Ester proprietary	30-50	Not Determined	Not Determined	Not Determined	Not Determined
Triethylene glycol monobutyl ether 143-22-6	10-40	None Known	None Known	None Known	None Known
Triethylene glycol monomethyl ether 112-35-6	0-20	None Known	None Known	None Known	None Known
Polyethylene glycol monomethyl ether 9004-74-4	0-20	Not Known	Not Known	Not Known	Not Known
Polyethylene glycol monobutyl ether 9004-77-7	0-20	None Known	None Known	None Known	None Known
Poly(ethylene oxide) 25322-68-3	5-15	2 mg/m <sup>3</sup>	Not Determined	2 mg/m <sup>3</sup>	Not Determined
Inhibitor Package proprietary	1-3	Not Determined	Not Determined	Not Determined	Not Determined

## 3. HAZARDS IDENTIFICATION

**Emergency Overview:** This material is irritating to skin, eyes and mucous membranes. Absorption through skin or inhalation of heated vapor and mist may result in central nervous system and adverse reproductive effects. Animal studies indicate high doses may cause adverse reproductive effects.

**HMIS Classification:** Health: 2 Flammability: 1 Physical Hazard: 0  
**NFPA Rating:** Health: 2 Flammability: 1 Reactivity: 0

## 4. FIRST AID MEASURES

**Eye Contact:** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower lids. Seek medical attention if irritation persists.

**Ingestion:** If swallowed, induce vomiting immediately by giving two glasses of water and sticking fingers down throat; never give anything to an unconscious person. Get medical attention.

**Inhalation:** If inhaled, remove to fresh air. If not breathing give artificial respiration, preferably mouth-to-mouth. If breathing is difficult give oxygen. Get medical attention. Vapors or mists from this material can irritate the nose, throat and lungs, and cause signs and symptoms of central nervous system depression, depending on the concentration and duration of exposure.

**Skin Contact:** Remove contaminated clothing and shoes, and launder before reuse. Flush with copious amounts of water. If irritation persists or signs of toxicity occur, seek medical attention.

## 5. FIRE FIGHTING MEASURES

### Flammable Properties

**Flash Point °F(°C):** 135 C. (275 F.)

**Flash Point Method:** PMCC

**Flammable Limits in Air - Lower (%):** Not Determined

**Flammable Limits in Air - Upper (%):** Not Determined

**Autoignition Temperature °F(°C):** Not Determined

**Extinguishing Media:** Alcohol foam. Dry chemical. Halon. Carbon dioxide. Water fog. Water. Water fog and foam may cause frothing and spattering.

**Protection Of Fire-Fighters:**

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**Special Fire-Fighting Procedures:** Wear approved positive-pressure self-contained breathing apparatus and protective clothing.  
**Hazardous Combustion Products:** Carbon Dioxide. Carbon Monoxide.  
**Aerosol Comments:** Not Applicable

## 6. ACCIDENTAL RELEASE MEASURES

**Personal Precautions:** Wear appropriate protective clothing and equipment to prevent skin and eye contact.  
**Spill Procedures:** Avoid all sources of ignition; heat, sparks and open flames. Contain any liquid from leaking containers. Wear protective equipment specified. Ventilate spill area. Soak up material with absorbent and place in chemical waste container.  
 If clean-up is not immediate, cover spill with plastic or canvas to keep dry.

**Environmental Precautions:** Do not allow to enter sanitary drains, sewer or surface and subsurface waters.

## 7. HANDLING AND STORAGE

**Handling and Storage:** Do Not Swallow. Store in a cool, dry place. Use only in a well ventilated area. Keep container closed when not in use to prevent contact with acidic, basic or oxidizing materials. Avoid open heating or agitation, this may generate vapors or mists.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Engineering Controls:** Exhaust ventilation. Eyewash stations. Showers.  
**Eyes:** Chemical goggles; also wear a face shield if splashing hazard exists.  
**Skin Protection:** Avoid skin contact. Wear protective clothing and gloves. Rubber, Neoprene or Vinyl. Wash hands and other exposed areas with mild soap and water before eating, drinking, smoking and when leaving work.  
**Respiratory Protection:** An approved respirator (i.e. NIOSH, etc.) should be worn when exposures are expected to exceed the applicable limits.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance:** Transparent pale yellow  
**Odor:** MILD, ETHEREAL      **pH Value:** Not Applicable  
**Vapor Pressure:** <0.01 mm Hg @ 20C      **Vapor Density (Air=1):** 9  
**Boiling Point (°F):** >200C (>392F)      **Melting/Freezing Point:** Pour Point -59C (-75F)  
**Solubility in Water:** <0.5%      **Bulk Density at 20°C:** Not Determined  
**Molecular Weight:** Mixture      **Evaporation Rate:** <0.01 (Butyl Acetate = 1)  
**Viscosity:** Not Determined.      **Specific Gravity (H2O=1):** 1.047 20C/20C  
**VOC Content(%):** 0.5 wt%      **Decomposition Temperature:** Not Known

## 10. STABILITY AND REACTIVITY

**Chemical Stability:** STABLE.  
**Conditions to Avoid:** Keep away from heat, sparks and flame. Avoid open heating or agitation, this may generate vapors or mists.  
**Materials to Avoid:** Contact with oxidizing agents. May form peroxides if in contact with air for long periods and these can explode spontaneously or when heated.  
**Hazardous Decomposition Products:** Oxides of carbon and nitrogen  
**Hazardous Polymerization:** WILL NOT OCCUR

## 11. TOXICOLOGICAL INFORMATION

**Toxicological Data:**

Ingredient/CAS No.	wt. %	Route	Species	Dose
Alkyl Ester proprietary	30-50	Inhalation	Rats	Not known.
Triethylene glycol monobutyl ether 143-22-6	10-40	Oral	Rats	LD50 5300 mg/kg
Triethylene glycol monomethyl ether 112-35-6	0-20	Oral	Rats	LD50 11300 uL/kg
Polyethylene glycol monomethyl ether 9004-74-4	0-20	Oral	Rats	LD50 39800 uL/kg
Polyethylene glycol monobutyl ether 9004-77-7	0-20	NA	NA	NA
Poly(ethylene oxide) 25322-68-3	5-15	Inhalation	Rats	Not known.
Inhibitor Package proprietary	1-3	Inhalation	Rats	Not known.

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Carcinogenicity:

Ingredient/CAS No.	wt. %	IARC	NTP	OSHA
Alkyl Ester proprietary	30-50	Not Listed	Not Listed	Not Listed
Triethylene glycol monobutyl ether 143-22-6	10-40	Not Listed	Not Listed	Not Listed
Triethylene glycol monomethyl ether 112-35-6	0-20	Not Listed	Not Listed	Not Listed
Polyethylene glycol monomethyl ether 9004-74-4	0-20	Not Listed	Not Listed	Not Listed
Polyethylene glycol monobutyl ether 9004-77-7	0-20	Not Listed	Not Listed	Not Listed
Poly(ethylene oxide) 25322-68-3	5-15	Not Listed	Not Listed	Not Listed
Inhibitor Package proprietary	1-3	Not Listed	Not Listed	Not Listed

Some minor components have been shown not to interfere with reproduction, although slightly toxic to the offspring or decreased pup weights were observed in the animal studies. This substance appears to be of low toxicity, except for possible mild irritant effects in humans. A high dose may produce central nervous system depression, but there are no reports of adverse health effects from occupational exposure.

## 12. ECOLOGICAL INFORMATION

Low to moderate toxicity is expected to aquatic and terrestrial organisms. There is limited information available on environmental fate and effects. Due caution should be exercised to avoid the accidental release of this material to aquatic and terrestrial environments. This mixture is not expected to bioconcentrate in significant amounts.

## 13. DISPOSAL CONSIDERATION

Waste Classification: Not determined.

Waste Management: Not determined.

Disposal should be made in accordance with federal, state and local regulations.

## 14. TRANSPORTATION INFORMATION

U.S. DOT:

Proper Shipping Name: Not Applicable  
Hazard Class: Not Regulated  
UN/NA Number: Not Applicable  
DOT Packing Group: Not Applicable

IMDG:

Proper Shipping Name: Not Applicable  
Hazard Class: Not Regulated  
Hazard Subclass: Not Applicable  
UN No.: Not Applicable  
Packing Group: Not Applicable  
Marine Pollutant: No

## 15. REGULATORY INFORMATION

US Federal Regulations:

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Ingredient/CAS No.	wt. %	SARA 313	SARA 302	RQ	TPQ
Alkyl Ester proprietary	30-50	Not Listed	Not Listed	Not Listed	Not Determined
Triethylene glycol monobutyl ether 143-22-6	10-40	Listed	Not Listed	NA	NA
Triethylene glycol monomethyl ether 112-35-6	0-20	Listed	Not Listed	NA	NA
Polyethylene glycol monomethyl ether 9004-74-4	0-20	Not Listed	Not Listed	NA	NA
Polyethylene glycol monobutyl ether 9004-77-7	0-20	Not Listed	Not Listed	NA	NA
Poly(ethylene oxide) 25322-68-3	5-15	Not Listed	Not Listed	Not Listed	Not Listed
Inhibitor Package proprietary	1-3	Not Listed	Not Listed	Not Listed	Not Determined

No specific component of this material is listed as a Hazardous Substance CERCLA (40 CFR 261). However, this product contains various ethylene glycols and glycol ethers which are each included as a broad category on the CERCLA Hazardous substances list.

**SARA 311/312 Hazard Categories:** Immediate Health: Yes, Delayed Health: Yes, Fire: No, Reactive: No, Pressure: No.

**State Regulations:**

Ingredient/CAS No.	wt. %	California Prop. 65 Cancer list	California Prop. 65 Developmental Toxicity	California Prop. 65 Reproductive Female	California Prop. 65 Reproductive Male
Alkyl Ester proprietary	30-50	Not Listed	Not Listed	Not Listed	Not Listed
Triethylene glycol monobutyl ether 143-22-6	10-40	Not Listed	Not Listed	Not Listed	Not Listed
Triethylene glycol monomethyl ether 112-35-6	0-20	Not Listed	Not Listed	Not Listed	Not Listed
Polyethylene glycol monomethyl ether 9004-74-4	0-20	Not Listed	Not Listed	Not Listed	Not Listed
Polyethylene glycol monobutyl ether 9004-77-7	0-20	Not Listed	Not Listed	Not Listed	Not Listed
Poly(ethylene oxide) 25322-68-3	5-15	Not Listed	Not Listed	Not Listed	Not Listed
Inhibitor Package proprietary	1-3	Not Listed	Not Listed	Not Listed	Not Listed

**U.S. TSCA:** The components of this product are listed on the TSCA Inventory.

This product contains the following chemical known to the State of California to cause birth defects and/or other reproductive harm: Ethylene glycol monomethyl ether (cas#109-86-4; Present at less than 0.01%).

## 16. OTHER INFORMATION

**General Notes:** Do not allow undiluted material or large quantities to reach groundwater, bodies of water or sewer system.

**Disclaimer:**

The information and recommendations contained herein are based upon tests believed to be reliable. However, the manufacturer/distributor of this

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