

# MATERIAL SAFETY DATA SHEET

**Trade Name:** Johnsens Heavy Duty Hydraulic Brake Fluid  
**MSDS NO.** 2234  
**Revision Date:** 03/10/2009  
**Date Printed** 04/06/2009

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Trade Name:** Johnsens Heavy Duty Hydraulic Brake Fluid  
**Chemical Family:** GLYCOL ETHER  
**Synonyms:** None  
**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

Component	Weight %	OSHA TWA	OSHA STEL	OSHA SKIN
Diisopropanolamine 110-97-4	1-3	Not Listed	Not Listed	Not Listed
Diethylene glycol 111-46-6	1-10	Not Listed	Not Listed	Not Listed
Triethylene glycol 112-27-6	1-20	Not Listed	Not Listed	Not Listed
Diethylene glycol monobutyl ether 112-34-5	1-5	Not Listed	Not Listed	Not Listed
Triethylene glycol monomethyl ether 112-35-6	7-30	Not Listed	Not Listed	Not Listed
triethylene glycol monoethyl ether 112-50-5	15-40	Not Listed	Not Listed	Not Listed
Tetraethylene glycol 112-60-7	1-20	Not Listed	Not Listed	Not Listed
Triethylene glycol monobutyl ether 143-22-6	1-25	Not Listed	Not Listed	Not Listed
poly(ethylene oxide) 25322-68-3	1-5	Not Listed	Not Listed	Not Listed
Pentaethylene glycol 4792-15-8	1-10	Not Listed	Not Listed	Not Listed
Sodium phosphate 7601-54-9	1-5	Not Listed	Not Listed	Not Listed
Polyethylene glycol monomethyl ether 9004-74-4	5-50	Not Listed	Not Listed	Not Listed
Polyethylene glycol monobutyl ether 9004-77-7	1-20	Not Listed	Not Listed	Not Listed

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Component	Weight %	OSHA Z PEL	OSHA Z TWA	OSHA Z Ceiling
Diisopropanolamine 110-97-4	1-3	Not Listed	Not Listed	Not Listed
Diethylene glycol 111-46-6	1-10	Not Listed	Not Listed	Not Listed
Triethylene glycol 112-27-6	1-20	Listed.	Not Listed	Not Listed
Diethylene glycol monobutyl ether 112-34-5	1-5	Not Listed	Not Listed	Not Listed
Triethylene glycol monomethyl ether 112-35-6	7-30	Not Listed	Not Listed	Not Listed
triethylene glycol monoethyl ether 112-50-5	15-40	Not Listed	Not Listed	Not Listed
Tetraethylene glycol 112-60-7	1-20	Not Listed	Not Listed	Not Listed
Triethylene glycol monobutyl ether 143-22-6	1-25	Not Listed	Not Listed	Not Listed
poly(ethylene oxide) 25322-68-3	1-5	Not Listed	Not Listed	Not Listed
Pentaethylene glycol 4792-15-8	1-10	Not Listed	Not Listed	Not Listed
Sodium phosphate 7601-54-9	1-5	Not Listed	Not Listed	Not Listed
Polyethylene glycol monomethyl ether 9004-74-4	5-50	Not Listed	Not Listed	Not Listed
Polyethylene glycol monobutyl ether 9004-77-7	1-20	Not Listed	Not Listed	Not Listed

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Component	ACGIH TLV TWA	ACGIH TLV STEL	ACGIH TLV Ceiling
Diisopropanolamine 110-97-4	Not Listed	Not Listed	Not Listed
Diethylene glycol 111-46-6	Not Listed	Not Listed	Not Listed
Triethylene glycol 112-27-6	Not Listed	Not Listed	Not Listed
Diethylene glycol monobutyl ether 112-34-5	Not Listed	Not Listed	Not Listed
Triethylene glycol monomethyl ether 112-35-6	Not Listed	Not Listed	Not Listed
triethylene glycol monoethyl ether 112-50-5	Not Listed	Not Listed	Not Listed
Tetraethylene glycol 112-60-7	Not Listed	Not Listed	Not Listed
Triethylene glycol monobutyl ether 143-22-6	Not Listed	Not Listed	Not Listed
poly(ethylene oxide) 25322-68-3	Not Listed	Not Listed	Not Listed
Pentaethylene glycol 4792-15-8	Not Listed	Not Listed	Not Listed
Sodium phosphate 7601-54-9	Not Listed	Not Listed	Not Listed
Polyethylene glycol monomethyl ether 9004-74-4	Not Listed	Not Listed	Not Listed
Polyethylene glycol monobutyl ether 9004-77-7	Not Listed	Not Listed	Not Listed

## 3. HAZARDS IDENTIFICATION

### Emergency Overview:

Danger: May be fatal if swallowed. This material is an eye irritant. May cause allergic skin reaction. Vapors are mildly to markedly irritating to the lungs depending on the exposure level. Ingestion may cause abdominal discomfort, nausea, and vomiting. May produce central nervous system depression and kidney damage.

### HMIS Classification: NFPA Rating:

Health: 2 Flammability: 1 Physical Hazard: 0  
Health: 2 Flammability: 1 Reactivity: 0

## 4. FIRST AID MEASURES

### Eye Contact:

In case of contact, or suspected contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention immediately after flushing.

### Ingestion:

Induce vomiting immediately as directed by medical personnel. Never give fluids or induce vomiting if the victim is unconscious or having convulsions.

### 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:

Wash with soap and water. Remove contaminated clothing and shoes, and launder before reuse. Get medical attention if irritation persists.

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## 5. FIRE FIGHTING MEASURES

### Flammable Properties

Flash Point °F(°C): >135C. (>275 F.)  
Flash Point Method: TAG Closed Cup  
Flammable Limits in Air - Lower (%): Not Determined  
Flammable Limits in Air - Upper (%): Not Determined  
Autoignition Temperature °F(°C): Not Determined  
Extinguishing Media: Water fog, carbon dioxide, foam, dry chemical. DO NOT use straight water streams.

### Protection Of Fire-Fighters:

**Special Fire-Fighting Procedures:** Wear approved positive-pressure self-contained breathing apparatus and protective clothing. Do not release runoff from fire control methods to sewers or waterways. Fight from a maximum distance or use unmanned hose holders or monitor nozzles. Containers can build up pressure if exposed to heat; cool with flooding quantities of water until well after the fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of vessel.

**Hazardous Combustion Products:** Carbon Dioxide. Carbon Monoxide. Unidentified organic compounds.  
**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.

**Action to be taken if material is released or spilled:** 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.

## 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.  
**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:** Clear, yellow to amber colloidal liquid  
**Odor:** MILD  
**pH Value:** 10 - 11.5  
**Vapor Pressure:** Not Determined  
**Vapor Density (Air=1):** Not Determined  
**Boiling Point (°F):** 450 F  
**Melting/Freezing Point:** -58 F. (-50 C.)  
**Solubility in Water:** SOLUBLE  
**Bulk Density at 20°C:** 8.33 - 9.02 lb/gal  
**Molecular Weight:** Mixture  
**Specific Gravity (H2O=1):** 1.000 - 1.070 @ 4 C.  
**Viscosity:** Not determined.  
**Evaporation Rate:** <.01  
**VOC Content(%):** 0 (CARB Method 310)  
**Decomposition Temperature:** Not Known

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## 10. STABILITY AND REACTIVITY

**Chemical Stability:** STABLE.  
**Conditions to Avoid:** Keep away from heat, sparks and flame.  
**Materials to Avoid:** Avoid contact with acidic, basic or oxidizing agents.  
**Hazardous Decomposition Products:** Carbon monoxide. Carbon dioxide. Unknown organic compounds.  
**Hazardous Polymerization:** WILL NOT OCCUR

## 11. TOXICOLOGICAL INFORMATION

**Toxicological Data:**

Component	Route	Species	Dose
Diisopropanolamine 110-97-4	Inhalation	Rats	Not known.
Diethylene glycol 111-46-6	Inhalation	Rats	Not known.
Triethylene glycol 112-27-6	Inhalation	Rats	Not known.
Diethylene glycol monobutyl ether 112-34-5	Inhalation	Rats	Not known.
Triethylene glycol monomethyl ether 112-35-6	Inhalation	Rats	Not known.
triethylene glycol monoethyl ether 112-50-5	Inhalation	Rats	Not known.
Tetraethylene glycol 112-60-7	Inhalation	Rats	Not known.
Triethylene glycol monobutyl ether 143-22-6	Inhalation	Rats	Not known.
poly(ethylene oxide) 25322-68-3	Inhalation	Rats	Not known.
Pentaethylene glycol 4792-15-8	Inhalation	Rats	Not known.
Sodium phosphate 7601-54-9	Inhalation	Rats	Not known.
Polyethylene glycol monomethyl ether 9004-74-4	Inhalation	Rats	Not known.
Polyethylene glycol monobutyl ether 9004-77-7	Inhalation	Rats	Not known.

**Carcinogenicity:**

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Component	IARC	NTP	OSHA
Diisopropanolamine 110-97-4	Not Listed	Not Listed	Not Listed
Diethylene glycol 111-46-6	Not Listed	Not Listed	Not Listed
Triethylene glycol 112-27-6	Not Listed	Not Listed	Not Listed
Diethylene glycol monobutyl ether 112-34-5	Not Listed	Not Listed	Not Listed
Triethylene glycol monomethyl ether 112-35-6	Not Listed	Not Listed	Not Listed
triethylene glycol monoethyl ether 112-50-5	Not Listed	Not Listed	Not Listed
Tetraethylene glycol 112-60-7	Not Listed	Not Listed	Not Listed
Triethylene glycol monobutyl ether 143-22-6	Not Listed	Not Listed	Not Listed
poly(ethylene oxide) 25322-68-3	Not Listed	Not Listed	Not Listed
Pentaethylene glycol 4792-15-8	Not Listed	Not Listed	Not Listed
Sodium phosphate 7601-54-9	Not Listed	Not Listed	Not Listed
Polyethylene glycol monomethyl ether 9004-74-4	Not Listed	Not Listed	Not Listed
Polyethylene glycol monobutyl ether 9004-77-7	Not Listed	Not Listed	Not Listed

## 12. ECOLOGICAL INFORMATION

**Remarks:** Ecological testing has not been conducted on this product.

## 13. DISPOSAL CONSIDERATION

**Waste Classification:** 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.  
**Waste Management:** Recovery and reuse, rather than disposal, should be the ultimate goal of handling efforts.  
**Disposal Method:** Disposal should be made in accordance with federal, state and local regulations.

## 14. TRANSPORTATION INFORMATION

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

**IMDG:**  
**Proper Shipping Name:** Not Applicable

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## 14. TRANSPORTATION INFORMATION

Hazard Class: Non-Hazardous  
 Hazard Subclass: Not Applicable  
 UN No.: Not Applicable  
 Packing Group: Not Applicable  
 Marine Pollutant: No

## 15. REGULATORY INFORMATION

**US Federal Regulations:**

Component	SARA 313	SARA 302	TPQ	RQ
Diisopropanolamine 110-97-4	Not Listed	Not Listed	Not Listed	Not Listed
Diethylene glycol 111-46-6	Not Listed	Not Listed	Not Listed	Not Listed
Triethylene glycol 112-27-6	Not Listed	Not Listed	Not Listed	Not Listed
Diethylene glycol monobutyl ether 112-34-5	Not Listed	Not Listed	Not Listed	Not Listed
Triethylene glycol monomethyl ether 112-35-6	Not Listed	Not Listed	Listed.	Not Listed
triethylene glycol monoethyl ether 112-50-5	Not Listed	Not Listed	Not Listed	Not Listed
Tetraethylene glycol 112-60-7	Not Listed	Not Listed	Not Listed	Not Listed
Triethylene glycol monobutyl ether 143-22-6	Not Listed	Not Listed	Not Listed	Not Listed
poly(ethylene oxide) 25322-68-3	Not Listed	Not Listed	Not Listed	Not Listed
Pentaethylene glycol 4792-15-8	Not Listed	Not Listed	Not Listed	Not Listed
Sodium phosphate 7601-54-9	Not Listed	Not Listed	Not Listed	Not Listed
Polyethylene glycol monomethyl ether 9004-74-4	Not Listed	Not Listed	Not Listed	Not Listed
Polyethylene glycol monobutyl ether 9004-77-7	Not Listed	Not Listed	Not Listed	Not Listed

**US OSHA HEALTH CLASSIFICATION:** 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:** Delayed

**State Regulations:**

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Component	California Prop. 65 Cancer list	California - Prop 65 Developmental Toxicity	California Prop. 65 Reproductive Female	California Prop. 65 Reproductive Male
Diisopropanolamine 110-97-4	Not Listed	Not Listed	Not Listed	Not Listed
Diethylene glycol 111-46-6	Not Listed	Not Listed	Not Listed	Not Listed
Triethylene glycol 112-27-6	Not Listed	Not Listed	Not Listed	Not Listed
Diethylene glycol monobutyl ether 112-34-5	Not Listed	Not Listed	Not Listed	Not Listed
Triethylene glycol monomethyl ether 112-35-6	Not Listed	Not Listed	Not Listed	Not Listed
triethylene glycol monoethyl ether 112-50-5	Listed.	Not Listed	Not Listed	Not Listed
Tetraethylene glycol 112-60-7	Not Listed	Not Listed	Not Listed	Not Listed
Triethylene glycol monobutyl ether 143-22-6	Not Listed	Not Listed	Not Listed	Not Listed
poly(ethylene oxide) 25322-68-3	Not Listed	Not Listed	Not Listed	Not Listed
Pentaethylene glycol 4792-15-8	Not Listed	Not Listed	Not Listed	Not Listed
Sodium phosphate 7601-54-9	Not Listed	Not Listed	Not Listed	Not Listed
Polyethylene glycol monomethyl ether 9004-74-4	Not Listed	Not Listed	Listed.	Not Listed
Polyethylene glycol monobutyl ether 9004-77-7	Not Listed	Not Listed	Not Listed	Not Listed

**U.S. TSCA:** One or more components of this product is not listed on the TSCA Inventory.  
**Canadian Inventory:** One or more components of this product is not listed on the Canadian DSL or NDSL Inventory.

**Consumer Product Safety Improvement Act of 2008 General Conformity Certification**

The Supplier identified in Section 1 of this MSDS has evaluated this product and certifies it to be labeled and packaged in compliance with the applicable provisions of the Federal Hazardous Substance Act as stated in 16 CFR 1500 and enforced by the Consumer Product Safety Commission, and where applicable the products that require Child Resistant Closures are packaged in accordance with the Poison Prevention Packaging Act as stated in 16 CFR 1700 and enforced by the Consumer Product Safety Commission. All closures have been tested in accordance with the latest protocols. No other testing is required to certify compliance with the above. The date of manufacture is stamped on the product container.

## 16. OTHER INFORMATION

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

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## 16. OTHER INFORMATION

**Disclaimer:**

The information and recommendations contained herein are based upon tests believed to be reliable. However, the manufacturer/distributor of this product does not guarantee their accuracy or completeness NOR SHALL ANY OF THIS INFORMATION CONSTITUTE A WARRANTY, WHETHER EXPRESSED OR IMPLIED, AS TO THE SAFETY OF THE GOODS, THE MERCHANTABILITY OF THE GOODS, OR THE FITNESS OF THE GOODS FOR A PARTICULAR PURPOSE. Adjustment to conform to actual conditions of usage may be required. The manufacturer/distributor assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied.