

# MATERIAL DATA SAFETY SHEET

## DOT 3 BRAKE FLUID

### SECTION 1: IDENTIFICATION

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PRODUCT IDENTITY: DOT 3 BRAKE FLUID  
CHEMICAL FAMILY: Brake Fluid  
CAS NUMBER: Mixture  
CHEMICAL NAME: Mixture  
SYNONYMS: Mixture of glycol ethers; Polyglycols; Glycols

#### Supplier

ICP International, LLC  
P.O Box 7267  
Cut and Shoot, Texas 77306  
**24 Hour Emergency Contact**  
CHEMTREC 800-424-9300

#### Business Contact

Customer Service  
1-936-494-3013

### SECTION 2: HAZARD IDENTIFICATION

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#### *Emergency Overview*

This material is HAZARDOUS by OSHA Hazard Communication definition.

#### Signal Word

WARNING

#### Hazards

Liquid, vapors or mist may be irritating to eyes, skin and respiratory tract.

#### NFPA®

Health	1
Flammability	1
Reactivity	0

#### HMIS®

Health	2
Flammability	1
Reactivity	0

#### Physical State

Liquid

#### Color

Clear to Amber

#### Odor

Mild Odor

#### Odor Threshold

No Value Available

## **Potential Health Effects**

### **Routes of Exposure**

Skin, Eye, Inhalation

### **Signs and Symptoms of Acute Exposure**

See component summary.

- Triethylene Glycol Monobutyl Ether 143-22-6  
Contact may cause severe eye irritation, but not expected to cause permanent damage. No other signs or symptoms of acute exposure are expected during normal use with standard manufacturing practices.
- Triethylene Glycol Monomethyl Ether 112-35-6  
Mildly toxic by ingestion and skin contact. A mild skin and eye irritant.
- Diethylene Glycol 111-46-6  
This substance may cause effects on the central nervous system, liver and kidneys.
- Tetraethylene Glycol Monobutyl Ether 1559-34-8  
No known chronic health effects.
- Tetraethylene Glycol 112-60-7  
No adverse chronic human health effects have been reported for this material.
- Triethylene Glycol Monoethyl Ether 112-50-3  
May be irritation to the skin.
- Pentaethylene Glycol Monobutyl Ether 23601-39-0  
Not expected to present a significant acute health hazard with short term exposure
- Diethylene Glycol Monobutyl Ether 112-34-5  
Moderate eye irritant. Effects of eye irritation are reversible. Contact may cause mild skin irritation. Not expected to be a sensitizer. Not a skin absorption hazard.
- Polyethylene Glycol Methyl Ether 9004-74-4  
Mild skin irritant. May cause minor eye irritation.
- Diethylene Glycol Monoethyl Ether 111-90-0  
Moderate eye irritant. Slight skin irritant. May produce symptoms of CNS depression including headache, dizziness, nausea, loss of sense of balance, drowsiness, and visual disturbances.

### **Skin**

May cause slight irritation if left in contact with skin. May be absorbed in toxic amounts through the skin.

### **Inhalation**

Due to low vapor pressure, significant exposure by inhalation appears unlikely. However, exposure to high concentrations of mist, aerosol, or vapors at elevated temperatures may cause irritation, coughing, and discomfort in the nose, throat and chest

**Eye**

Can cause irritation and moderate conjunctivitis following contact.

**Ingestion**

May produce symptoms of CNS depression including headache, dizziness, nausea, loss of sense of balance, drowsiness, and visual disturbances.

**Chronic Health Effects**

See component summary.

- Triethylene Glycol Monobutyl Ether 143-22-6  
Repeated or prolonged contact may cause skin irritation. May cause dermatitis by defatting the skin from prolonged or repeated contact.
- Triethylene Glycol Monomethyl Ether 112-35-6  
No chronic health hazards are expected to occur from anticipated conditions of normal use of this material.
- Polyethylene Glycol Methyl Ether 9004-74-4  
No known chronic health effects.
- Diethylene Glycol 111-46-6  
No adverse chronic human health effects have been reported for this material.
- Tetraethylene Glycol 112-60-7  
No adverse chronic human health effects have been reported for this material.
- Tetraethylene Glycol Monobutyl Ether 1559-34-8  
No adverse chronic human health effects have been reported for this material.
- Triethylene Glycol Monoethyl Ether 112-50-3  
No known chronic health effects
- Pentaethylene Glycol Monobutyl Ether 23601-39-0  
No known chronic health effects
- Diethylene Glycol Monobutyl Ether 112-34-5  
May cause dermatitis by defatting the skin from prolonged or repeated contact.
- Polyethylene Glycol Methyl Ether 9004-74-4  
No known chronic health effects
- Diethylene Glycol Monoethyl Ether 111-90-0  
Repeated or prolonged skin contact may cause slight transient irritation. Skin absorption may add significantly to the overall toxic effect. Prolonged or high exposures may cause CNS effects and liver and kidney changes.

**Conditions Aggravated by Exposure**

Any pre-existing disorders or diseases of the eyes, skin, blood, and/or central nervous system (CNS)

### SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

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Component Name	CAS#	EU Inventory	Conc. Wt. %	Risk	Symbol
Triethylene Glycol Monobutyl Ether	143-22-6	205-592-6	23 <= 35	None	None
Triethylene Glycol Monomethyl Ether	112-35-6	203-962-1	3 <= 10	None	None
Diethylene Glycol	111-46-6	203-872-2	10 <=20	R22	Xn
Tetraethylene Glycol Monobutyl Ether	1559-34-8	216-322-1	9 <=14	None	None
Tetraethylene Glycol	112-60-7	203-989-9	6 <=10	None	None
Triethylene Glycol Monoethyl Ether	112-50-5	203-978-9	8 <=20	None	None
Pentaethylene Glycol Monobutyl Ether	23601-39-0	245-774-2	2 <=5	None	None
Diethylene Glycol Monobutyl Ether	112-34-5	203-961-6	1 <=8	R36	Xi
Polyethylene Glycol Methyl Ether	9004-74-4	Not Assigned	<= 4.0	None	None
Diethylene Glycol Monoethyl Ether	111-90-0	203-919-7	<= 2.0	None	None

Concentrations given are typical values  
See section 16 for full text of risk phrases

### SECTION 4: FIRST AID MEASURES

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#### General

Take proper precautions to ensure your own health and safety before attempting rescue and providing first aid. For specific information refer to the Emergency Overview in Section 3 of this MSDS.

#### Skin

Wash skin with soap and water. Remove contaminated clothing. Launder contaminated clothing before reuse.(Discard contaminated shoes.) If irritation occurs get medical attention.

#### Inhalation

Remove exposed person to fresh air. If breathing is difficult, give oxygen. If breathing has stopped, give artificial respiration. CALL A PHYSICIAN IMMEDIATELY.

#### Eye

Flush eyes with large amounts of water for at least 15 minutes, lifting eyelids to insure complete flushing of surface. GET MEDICAL ATTENTION IMMEDIATELY

#### Ingestion

Never give anything by mouth to an unconscious person. Have patient drink several glasses of water, then induce vomiting by having patient tickle back of throat with finger. Keep airway clear. GET MEDICAL ATTENTION IMMEDIATELY.

## SECTION 5: FIRE FIGHTING MEASURES

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### Flammable Properties

#### **Classification**

OSHA/NFPA Class IIIB combustible liquid

#### **Flash Point:**

121 ° C (249 ° F) PMCC

#### **Auto Ignition Temperature**

310 ° C (590 ° F)

#### **Lower Flammable Limit**

No Data Available

#### **Upper Flammable Limit**

No Data Available

### Extinguishing Media

**Suitable:** SMALL FIRE: Use dry chemicals, CO<sup>2</sup>, water spray or alcohol resistant foam. LARGE FIRE: Use water spray, water fog or alcohol resistant foam.

**Unsuitable:** Do not use solid water stream.

### Protection of Firefighters

**Protective Equipment/Clothing:** Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters protective clothing will only provide limited protection.

**Fire Fighting Guidance:** Fight fire from maximum distance or use unmanned hose handlers or monitor nozzles. Move containers from fire area if you can do it without risk. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. Always stay away from tanks engulfed in fire.

**Hazardous Combustion Products:** Carbon Oxides (CO, CO<sup>2</sup>)

## SECTION 6: ACCIDENTAL RELEASE MEASURES

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### **Release Response**

Combustible liquid. Eliminate all sources of ignition. Do not touch or walk through spilled material. Stop leak if you can do so without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material.

## SECTION 7: HANDLING AND STORAGE

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### **Handling**

Normal precautions common to good manufacturing practice should be followed in handling and storage. Open and handle container with care. Do not handle near heat, sparks or flame. Avoid contact with incompatible agents. Use only with adequate ventilation/personal protection. Avoid contact with eyes, skin, and clothing. Do not enter storage area unless adequately ventilated. Metal containers involved in the transfer of this material should be grounded and bonded. Handle empty containers with care as residue may be combustible. After handling, always wash hands thoroughly with soap and water. Isolate, vent, drain, wash and purge systems or equipment before maintenance or repair. Observe precautions pertaining to confined space entry. Check atmosphere for explosiveness and oxygen deficiencies. Use only non-sparking tools.

### **Storage**

Store in well ventilated area. Store away from heat, open flame and strong oxidizing agents. Keep container tightly closed and properly labeled. Ground all equipment containing this material. Use only non-sparking tools.

## **SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION**

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### **Engineering Controls**

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits.

### **Personal Protection**

Inhalation A respiratory protection program that meets OSHA's 29 CFR 1910.134 or ANSI Z88.2 requirements must be followed whenever workplace conditions warrant respirator use. No occupational exposure limit(s) have been established for this material or its components. If nuisance mists cause discomfort, U.S. National Institute for Occupational Safety and Health ( NIOSH ) approved respiratory protection is suggested.

Skin Wear chemical resistant gloves such as rubber, neoprene, or vinyl. When skin contact is possible, protective clothing including gloves, apron, sleeves, boots, head and face protection should be worn. The equipment must be cleaned thoroughly after each use.

Eye Safety glasses are required as minimum requirements. Use splash goggles when eye contact due to splashing or spraying liquid is possible.

### **Additional Remarks**

Selection of appropriate personal protective equipment should be based on an evaluation of the performance characteristics of the protective equipment relative to the task(s) to be performed, conditions present, duration of use, and the hazards and/or potential hazards that may be encountered during use. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Use good personal hygiene practices. Wash hands before eating, drinking, smoking, or using toilet facilities. Promptly remove soiled clothing and wash thoroughly before reuse. Use care in walking on spilled material. Material spilled on hard surfaces can be a serious slipping/falling hazard.

### **Occupational Exposure Limits**

<b>Component Name</b>	<b>Source / Date</b>	<b>Value</b>	<b>Type</b>	<b>Notation</b>
Tetraethylene Glycol	US (ACGIH) / 2007	N/L		
	US (OSHA) / 2007	N/L		

Diethylene Glycol	US (ACGIH) / 2006	N/L
	US (OSHA) / 1993	N/L
Triethylene Glycol Monoethyl Ether	US (ACGIH) / 2003	N/L
	US (OSHA) / 2003	N/L
Diethylene Glycol Monobutyl Ether	US (ACGIH) / 2004	N/L
	US (OSHA) / 2000	N/L
Diethylene Glycol Monoethyl Ether	ACGIH / 2006	N/L

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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**Appearance:** Liquid. Amber.

**Odor:** Mild Odor.

**Odor Threshold:** No value available.

**pH:** Not applicable

**Boiling Point/Boiling Range:** >218 ° C (> 425 ° F) @ 760 mm Hg

**Freezing Point/ Melting Point:** -50 ° C (-58 ° F)

**Flash Point:** 121 ° C (249.8 ° F) PMCC

**Auto-Ignition:** 310 ° C (590 ° F)

**Flammability:** OSHA/NFPA Class IIIB combustible liquid.

**Lower Flammable Limit:** No Data Available.

**Upper Flammable Limit:** No Data Available.

**Explosive Properties:** No Data Available.

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**Oxidizing Properties:** No Data Available.

**Vapor Pressure:** No Data Available.

**Evaporation Rate:** No Data Available.

**Relative Density:** 1.05

**Viscosity:** No Data Available.

**Solubility (Water):** Soluble in water.

**Partition Coefficient (KOW):** No Data Available.

**Additional Physical and Chemical Properties:** No Additional Information Available.

## SECTION 10: STABILITY AND REACTIVITY

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### Chemical Stability

This product is stable.

### Conditions to Avoid

Avoid contact with strong oxidizers, excessive heat, sparks or open flame.

### Substances to Avoid

Oxidizers

### Decomposition Products

Carbon oxides ( CO, CO<sup>2</sup> )

### Hazardous Polymerization

Will Not Occur.

### Reactions with Air and Water

Does not react with air, water or other common materials.

## SECTION 11: TOXICOLOGICAL INFORMATION

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### PRODUCT INFORMATION

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### Product Summary

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.

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### COMPONENT INFORMATION

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- Triethylene Glycol Monobutyl Ether 143-22-6

### Acute Toxicity – Lethal Doses

LD50 (Oral) Rat 5300 MG/KG



LD50 (Skin)      Rabbit              3540 UL/KG

**Irritation**

Skin Repeated or prolonged contact may cause slight skin irritation. No significant signs or symptoms indicative of any health hazard are expected to occur as a result of skin absorption exposure. Not expected to be a sensitizer.

Eye Contact may cause severe eye irritation, but is not expected to cause permanent damage.

**Target Organ Effects**

Eye. Skin.

**Repeated Dose Toxicity**

No known chronic health effects. Repeated or prolonged contact with skin may cause defatting and drying of the skin which may result in dermatitis.

**Reproductive Effects**

Not expected to occur.

**Developmental Effects**

Results from animal studies demonstrate that this material is not a teratogen, nor is it toxic to the developing embryo or fetus at non-maternally toxic doses.

**Carcinogenicity**

Not listed by IARC, NTP, or OSHA.

- Triethylene Glycol Monomethyl Ether      112-35-6

**Acute Toxicity – Lethal Doses**

LD50 (Oral)      Rat              11.8 G/KG

LD50 (Skin)      Rabbit              7.4 G/KG

**Irritation**

Skin This substance is a mild skin irritant.

Eye This product is suspected to be a mild eye irritant.

**Repeated Dose Toxicity**

In severe overexposure enough material might be absorbed into the skin to cause systemic injury.

**Reproductive Effects**

Laboratory tests indicate high doses may cause adverse reproductive effects in rats and mice.

**Carcinogenicity**

No conclusive data found in literature search. Not listed by IARC, NTP, or OSHA.

- Polyethylene Glycol Methyl Ether 9004-74-4

#### **Acute Toxicity – Lethal Doses**

LD50 (Oral) Rat 22 - 40 G/KG

LD50 (Skin) Rabbit > 20 ML/KG

#### **Reproductive Effects**

Maternally toxic oral doses did not produce malformations and was not selectively toxic to developing conceptus.

- Diethylene Glycol 111-46-6

#### **Acute Toxicity – Lethal Doses**

LD50 (Oral) Rat 12,565 MG/KG BWT

Mouse 23,700 MG/KG BWT

LD50 (Skin) Rabbit 11,900 MG/KG

#### **Acute Toxicity – Effects**

Inhalation None Expected

#### **Irritation**

Skin Slight skin irritant. Not expected to be a sensitizer.

Eye May cause minor eye irritation.

#### **Repeated Dose Toxicity**

Diethylene glycol given to rats in the diet for two years caused bladder stones, tumors, and kidney and liver damage. These effects were probably due to contaminating ethylene glycol, and the bladder stones were formed from oxalate crystals.

#### **Reproductive Effects**

Reproductive and developmental effects have been noted in animals following very large (>3000 mg/kg bw/day) oral doses. However, comparable internal dose levels are not possible with dermal or inhalation exposures under normal conditions of use. Therefore, Diethylene glycol is not considered a possible reproductive or developmental hazard except during very large oral doses.

#### **Carcinogenicity**

Not listed by IARC, NTP, or OSHA. No evidence for carcinogenicity was found with a chronic skin-painting study in mice. No carcinogenic or tumor promoting effects in rats exposed up to 2.5% solutions in drinking water for 108 weeks. Older feed studies utilizing limited number tissues but very high doses also provide no evidence of carcinogenicity. Therefore, this substance should not be considered a concern for carcinogenicity.

- Triethylene Glycol Monobutyl Ether 143-22-6

#### **Acute Toxicity – Lethal Doses**

LD50 (Oral) Rat 5300 MG/KG

LD50 (Skin) Rabbit 3540 UL/KG

**Irritation**

Skin Repeated or prolonged contact may cause slight skin irritation. No significant signs or symptoms indicative of any health hazard are expected to occur as a result of skin absorption exposure. Not expected to be a sensitizer.

Eye Contact may cause severe eye irritation, but not expected to cause permanent damage.

**Target Organ Effects**

Eye. Skin.

**Repeated Dose Toxicity**

No known chronic health effects. Repeated or prolonged contact with skin may cause defatting and drying of the skin which may result in dermatitis.

**Reproductive Effects**

Not expected to occur.

**Developmental Effects**

Results from animal studies demonstrate that this material is not a teratogen, nor is it toxic to the developing embryo or fetus at non-maternally toxic doses.

**Carcinogenicity**

Not listed by IARC, NTP, or OSHA.

- Tetraethylene Glycol 112-60-7

**Acute Toxicity – Lethal Doses**

LD50 (Oral) Rat > 18,056 MG/KG

LD50 (Skin) Rabbit > 20000 MG/KG

**Carcinogenicity**

Not listed by IARC, NTP, or OSHA.

- Polyethylene Glycol 25322-68-3

**Acute Toxicity – Lethal Doses**

LD50 (Oral) Rat > 30000 MG/KG

LD50 (Skin) Rabbit > 20000 MG/KG

**Carcinogenicity**

Not listed by IARC, NTP, or OSHA.

- Tetraethylene Glycol Monobutyl Ether 1559-34-8

**Repeated Dose Toxicity**

No known chronic health effects.

**Carcinogenicity**

Not listed by IARC, NTP, or OSHA.

- Pentaethylene Glycol Monobutyl Ether 23601-39-0

**Repeated Dose Toxicity**

No known chronic health effects.

**Carcinogenicity**

Not listed by IARC, NTP, or OSHA.

- Diethylene Glycol Monobutyl Ether 112-34-5

**Acute Toxicity – Lethal Doses**

<u>LD50 (Oral)</u>	Rat	5080 MG/KG
	Mouse	2406 MG/KG

<u>LD50 (Skin)</u>	Rabbit	2764 MG/KG
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**Irritation**

Skin This substance is a mild skin irritant

Eye Moderate eye irritant

**Target Organ Effects**

Eye

**Reproductive Effects**

In vivo animal studies show no adverse reproductive effects.

**Developmental Effects**

Results from animal studies demonstrate that this material is not a teratogen or toxic to the developing embryo or fetus.

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**Genetic Toxicity**

Negative for genotoxicity both in vitro in vivo tests.

**Carcinogenicity**

Not listed by IARC, NTP, or OSHA.

- Diethylene Glycol Monoethyl Ether 111-90-0

**Acute Toxicity – Lethal Doses**

<u>LD50 (Oral)</u>	Rat	5400 MG/KG
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<u>LD50 (Skin)</u>	Rabbit	9.0 G/KG
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**Irritation**

Skin Slight skin irritant

Eye Moderate eye irritant

**Repeated Dose Toxicity**

In a two year drinking water study with rats and mice, no adverse effects were observed at 1% and 5%, respectively.

**Carcinogenicity**

Not listed by IARC, NTP, or OSHA.

**SECTION 12: ECOLOGICAL INFORMATION**

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**PRODUCT INFORMATION**

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**Ecotoxicity**

This material is highly soluble in water. Laboratory toxicity tests indicate that it is not significantly toxic to fish and aquatic invertebrates, although amphibians may be more sensitive. Wildlife species may be more susceptible since mammals and birds do not readily metabolize this material. The odor and flavor of this material may attract some wildlife and cause them to consume spilled material.

**Environmental Fate and Pathway**

This material will biodegrade rather rapidly in both soil and water, and will not persist in the environment. Due care should be taken to avoid accidental releases to aquatic or terrestrial systems.

Persistence and Degradability

Bioaccumulation: This material is highly soluble in water and should not bioaccumulate in aquatic or terrestrial organisms.

**COMPONENT INFORMATION**

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- Triethylene Glycol Monobutyl Ether 143-22-6

**Ecotoxicity**

No Data Available

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**Environmental Fate and Pathway**

Expected to have high mobility in soils. It is water soluble and is expected to have low volatility. If released to the atmosphere, this material should exist in both the vapor and particulate phases. Vapor phase is degraded in the atmosphere by reaction with photochemically produced hydroxyl radicals. Particulate phase of this material may be physically removed from air by wet and dry deposition.

- Triethylene Glycol Monomethyl Ether 112-35-6

**Ecotoxicity**

This material is highly soluble in water. Limited toxicity tests indicate this material should exhibit low toxicity to aquatic organisms. The odor and flavor of this material may attract some wildlife and cause them to consume spilled material.

**Environmental Fate and Pathway**

This material will biodegrade rather rapidly in both soil and water, and will not persist in the environment. Due care should be taken to avoid accidental releases to aquatic or terrestrial systems.

Persistence and Degradability

Bioaccumulation: Because of this materials high solubility and rapid biodegradability, it is unlikely that bioaccumulation will occur in aquatic or terrestrial systems. Models estimate that this material will preferentially partition to water versus air or soil.

- Diethylene Glycol 111-46-6

**Ecotoxicity**

Diethylene glycol (DEG) is highly soluble in water. Laboratory tests indicate that DEG is not significantly toxic to fish or aquatic invertebrates. While there is no wildlife toxicity data available on DEG, laboratory tests on rats would indicate that it should not be highly toxic to mammals.

**Environmental Fate and Pathway**

This material is volatile and water soluble. It is not expected to absorb onto soils or sediments. Expected to have high mobility in soils. This material is expected to exist solely as a vapor in the ambient atmosphere. Vapor-phase is degraded in the atmosphere by reaction with photochemically produced hydroxyl radicals. The particulate phase of this material may be physically removed from the air by wet and dry deposition. This material is not expected to persist in the environment.

Persistence and Degradability

Stability in water: Diethylene glycol (DEG) is highly soluble in water.

Biodegradation: This material is expected to be readily biodegradable.

Bioaccumulation:  $BCF < 1.0$  This material is not expected to bioaccumulate.

Persistence and Degradability

Stability in soil: The KOC value suggests that this compound would be highly mobile if released onto the soil and would not absorb to suspended solids or sediments.

Biodegradation: This material is expected to be partially or slowly biodegradable.

Bioaccumulation:  $BCF < 1.0$  This material is not expected to bioaccumulate.

- Tetraethylene Glycol Monobutyl Ether 1559-34-8

**Ecotoxicity**

No data available.

**Environmental Fate and Pathway**

No data available.

- Tetraethylene Glycol 112-60-7

**Ecotoxicity**

This material is highly soluble in water. Limited toxicity tests indicate this material should exhibit low toxicity to aquatic organisms. The odor and flavor of this material may attract some wildlife and cause them to consume spilled material.

Acute Toxicity to Fish

LC50/96 HOURS > 1000 mg/l

Acute Toxicity to Aquatic Invertebrates

EC50/48 HOURS Daphnia magna. > 1000 mg/l

Toxicity to Aquatic Plants

EC50/96 HOURS Green Algae (Selenastrum) > 1000 mg/l

Toxicity to Microorganisms

EC50/6 HOURS Bacteria > 100 mg/l

**Environmental Fate and Pathway**

No data available.

Other Adverse Effects

No data available.

- Triethylene Glycol Monoethyl Ether 112.50-5

**Ecotoxicity**

No data available.

**Environmental Fate and Pathway**

Expected to have high mobility in soils. Volatilization from dry soil surfaces is expected. Volatilization from moist soil surfaces is expected. This material is expected to exist solely as a vapor in the ambient atmosphere. Vapor phase is degraded in the atmosphere by reaction with photochemically produced hydroxyl radical.

Persistence and Degradability

Biodegradation: This material is expected to be readily biodegradable.

Bioaccumulation: BCF <1.0 This material is not expected to bioaccumulate.

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- Pentaethylene Glycol Monobutyl Ether 23601-39-0

**Ecotoxicity**

No data available.

**Environmental Fate and Pathway**

No data available.

- Diethylene Glycol Monobutyl Ether 112-34-5

**Ecotoxicity**

Acute Toxicity to Fish

LC50/96 HOURS silverside minnow. 2,000 mg/l

LC50/96 HOURS bluegill. 1,300 mg/l

Summary: This material is not harmful or toxic to fish.

### Acute Toxicity to Aquatic Invertebrates

Summary: No data available.

### Acute Toxicity to Aquatic Plants

Summary: No data available.

### **Environmental Fate and Pathway**

Expected to have high mobility in soils. It is water soluble and is expected to have low volatility. This material is expected to exist solely as a vapor in the ambient atmosphere. Vapor phase is degraded in the atmosphere by reaction with photochemically produced hydroxyl radicals. Hydrolysis is not expected to be an important factor in the environmental fate process for this material.

### Persistence and Degradability

Stability in Soil: The Koc value suggests that this compound would be highly mobile if released onto the soil and would not absorb to suspended solids or sediments.

Biodegradation: This material is expected to be readily biodegradable.

Bioaccumulation:  $2.0 \text{ BCF} < 5$  This material is not expected to bioaccumulate.

- Polyethylene Glycol Methyl Ether 9004-74-4

### **Ecotoxicity**

No data available.

### **Environmental Fate and Pathway**

No data available.

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- Diethylene Glycol Monoethyl Ether 111-90-0

### **Ecotoxicity**

This material is expected to have low toxicity to aquatic species. However, due caution should be exercised to prevent the accidental release of this material to the environment.

### Acute Toxicity to Fish

LC50/24 HOURS goldfish > 5000 mg/l

LC50/96 HOURS fathead minnow. 26,500 mg/l

### **Environmental Fate and Pathway**

Expected to have high mobility in soils. Volatilization from dry soil surfaces is expected. While this material may evaporate into the air from dry soil, it is unlikely to evaporate from moist soil or water. This material is expected to exist solely as a vapor in the ambient atmosphere. The vapor phase of this material is degraded in the atmosphere by reaction with photochemically produced hydroxyl radicals and ozone.

### Persistence and Degradability



Biodegradation: Incubation of Diethylene glycol monoethyl ether for 5, 10, and 20 days without an acclimation period resulted in theoretical BOD values of 5, 31, and 48% respectively. This material is expected to be readily biodegradable.

Bioaccumulation: BCF = 0.2 This material is not expected to bioaccumulate.

### SECTION 13: DISPOSAL CONSIDERATIONS

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Dispose of all waste and contaminated equipment in accordance with all applicable federal, state and local health and environmental regulations. Recovery and reuse, rather than disposal, should be the ultimate goal of handling efforts. The materials resulting from clean-up operations may be hazardous wastes and therefore, subject to specific regulations.

### SECTION 14: TRANSPORT INFORMATION

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#### Special Requirements

If you reformulate or further process this material, you should consider re-evaluation of the regulatory status of the components listed in the compositions section of this sheet, based on the final composition of your product

**Proper Shipping Name** BRAKE FLUID, OTHER THAN PETROLEUM

### SECTION 15: REGULATORY INFORMATION

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#### Regulatory Status

Country	Inventory		
Australia	AICS	X	
Canada	DSL		
Canada	NDSL		X = All components are included or are otherwise
China	IECS		Exempt from inclusion on this inventory
European Union	EINECS		
European Union	ELINCS		
European Union	NLP		
Japan	ENCS		
Korea	ECL		
Philippines	PICCS		
United States	TSCA	X	

All components of this product are listed or are exempt from listing on the TSCA 8(b) inventory. If identified components of this product are listed under the TSCA 12(b) Export Notification rule, they will be listed below.

## SARA 311/312

Based on available information, this material is classified as the following health and/or physical hazards according to Section 311 & 312.

Immediate Acute Health Hazard  
Delayed (Chronic) Health Hazard  
Fire Hazard

## SARA 313

This material contains the following chemicals with known CAS numbers subject to the reporting requirements of SARA Title III, Section 313 and 40 CFR 372:

<u>Component</u>	<u>Reporting Threshold</u>
Diethylene Glycol Monobutyl Ether / CAS # 112-34-5	1.0%
Triethylene Glycol Monobutyl Ether / CAS # 143-22-6	1.0%
Diethylene Glycol Monoethyl Ether / CAS # 111-90-0	1.0%
Triethylene Glycol Monoethyl Ether / CAS # 112-50-5	1.0%
Triethylene Glycol Monomethyl Ether / CAS # 112-35-6	1.0%

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## SECTION 16: OTHER INFORMATION

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DATE: 11/19/96 REVISED 9/28/07, 16 SECTION FORMAT

### All Relevant Risk Phrases

None  
R22 – Harmful if swallowed  
R36 – Irritating to eyes

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## DISCLAIMER OF RESPONSIBILITY

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