

# MSDS - Material Safety Data Sheet

## Product Name: DOT 3 HEAVY DUTY BRAKE FLUID

MSDS No.: M4412

### I. Basic Information:

**Manufacturer:** RADIATOR SPECIALTY COMPANY  
**Address:** P.O. BOX 159, 600 RADIATOR ROAD  
**City, ST Zip:** INDIAN TRAIL, NC 28079  
**Emergency Contact:** Rocky Mountain Poison Control Center  
**Emergency Telephone Number:** 303-623-5716  
**Contact:** Robert Geer  
**Information Telephone Number:** 704-688-3430



**Last Update:** 06/05/2003

**Chemical State:**  Liquid  Gas  Solid

**Chemical Type:**  Pure  Mixture

1	Health
1	Flammability
0	Reactivity
C	Pers. Protection

### II. Ingredients:

Trade Secret

CAS No.	Chemical Name	% Range	EHS		IARC		SARA		OSHA PEL	ACGIH TLV	Other Limits
			NTP		SUB Z	313					
112345	2-Butoxyethoxy-2-ethanol	<=10.0					X	N/E	N/E		
111-46-6	Diethylene Glycol	<=5.0						N/E	N/E	50 ppm	
111-77-3	Diethylene Glycol Monomethyl Ether	<=4.0						N/E	N/E	.	
6881-94-3	Diethylene glycol monopropyl ether	<=3.0						N/E	N/E		
25322-68-3	Poly(ethylene oxide)	>=5.0 <=30.0						N/E	N/E		
9004-77-7	Polyethylene glycol monobutyl ether	<=25.0						N/E	N/E		
9004-74-4	Polyethylene glycol monomethyl ether	<=25.0						N/E	N/E		
112276	Triethylene glycol	<=10.00						N/E	N/E	100 mg/	
143226	Triethylene glycol monobutyl ether	<=35.0					X	N/E	N/E		
112-50-5	Triethylene glycol monoethyl ether	<=50.0						N/E	N/E		
112-35-6	Triethylene glycol monomethyl ether	<=40.0					X	N/E	N/E		

### III. Hazardous Identification:

**Hazard Category:**

Acute  Chronic  Fire  Pressure  Reactive

**Hazardous Identification Information:**

Highly toxic and may be fatal if swallowed. May cause CNS depression. Eye and Skin Irritant.

### IV. First Aid Measures:

**Route(s) of Entry:**

Absorption, Inhalation, and Ingestion.

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### **Health Hazards (Acute and Chronic):**

Exposure to high concentrations of mist generated at room temperature may cause lung injury and liver dysfunction. Skin contact may cause sensitization and allergic skin reaction. Components of this formulation have caused slight embryofetal toxicity (delayed development), but no increase in birth defects in laboratory animals.

### **Signs and Symptoms:**

**EYE CONTACT:** Causes severe irritation, experienced as discomfort or pain, excess blinking and tear production, marked excess redness and swelling of the conjunctiva.

**SKIN CONTACT:** Prolonged or repeated contact may cause discomfort and local redness. Prolonged or repeated contact may cause defatting and drying of the skin.

**INHALATION:** Short-term health effects are not expected from vapor generated at ambient temperature.

**INGESTION:** Slightly toxic. May cause abdominal discomfort, nausea, and vomiting.

### **Medical Conditions Generally Aggravated by Exposure:**

Skin contact may aggravate an existing dermatitis.

### **Emergency and First Aid Procedures:**

**Eye Contact:** Flush eyes with clean water for 15 minutes while lifting eyelids. Get prompt medical attention.

**Skin Contact:** Wash with soap and water thoroughly. If adverse effects persist, get prompt medical attention. Launder contaminated clothing before reuse.

**Inhalation:** Remove to fresh air. If breathing becomes difficult give oxygen and get prompt medical attention. If breathing stops, give artificial respiration and get prompt medical attention.

**Ingestion:** DO NOT INDUCE VOMITING! Call Poison Control Center, physician, or hospital emergency room immediately. Aspiration of vomitus into the lungs can cause pneumonitis, which can be fatal.

### **Other Health Warnings:**

Vomiting and subsequent aspiration into the lungs may lead to chemical pneumonia and pulmonary edema which is a potentially fatal condition.

## **V. Fire Fighting Measures:**

**Flash Point:** 230°F

**Lower Explosive Limit:** ND

**Upper Explosive Limit:** ND

**F.P. Method:** TCC

**Fire Extinguishing Media:** Water Fog, Foam, Carbon Dioxide, Dry Chemical

### **Special Fire Fighting Procedures:**

Wear self-contained positive pressure breathing apparatus and protective clothes. Cool containers with a water fog. Do not use forced water stream or direct foam as this could cause the fire to spread.

### **Unusual Fire and Explosion:**

Use protective equipment and clothing. During a fire, oxides of nitrogen may be produced.

## **VI. Accidental Release Measures:**

### **Steps to be Taken in Case Material is Released or Spilled:**

Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Dike or contain spill and absorb with inert materials (sand, sawdust, absorbent sweeping compounds, rags, etc). Place contaminated material into an approved chemical waste container. Where possible, vacuum spilled liquid using an explosion proof vacuum to recover material. Prevent run-off to sewers, streams, or other bodies of water. If run-off occurs, notify proper authorities as required that a spill has occurred.

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### VII. Handling and Storage:

#### Precautions to be Taken:

Avoid contact with eyes, skin, and clothing. Avoid repeated breathing of mist. Keep containers closed. Use with adequate ventilation. Wash thoroughly after handling.

#### Other Precautions:

Do not used in confined area without proper ventilation. Contact lenses may cause further damage in case of splash into eye. KEEP AWAY FROM CHILDREN AND ANIMALS!

### VIII. Exposure Controls/Personal Protection:

#### Ventilation Requirements:

General (mechanical) room ventilation is expected to be satisfactory. Avoid breathing mist.

As Ethylene Glycol Vapors ACGIH -TLV recommends a ceiling level of 39.4 ppm (v)  
OSHA - PEL recommends a ceiling level of 50 ppm (v)

#### Personal Protective Equipment:

Safety glasses and goggles for bulk handling. Use PVC coated gloves. Other protective equipment: eye bath and shower.

### IX. Physical and Chemical Properties:

**Boiling Point:** >450°F

**Melting Point:** NA

**Evaporation Rate (Butyl Acetate = 1):** <0.01

**Vapor Pressure (mm Hg.):** <0.1

**Specific Gravity (H2O = 1):** 1.03900

**Vapor Density (AIR = 1):** 6

**Solubility In Water:** Soluble

**Appearance and Odor:** Transparent yellow to amber with mild ether like odor

**Other Information:** N/D

### X. Stability and Reactivity:

#### Stability:

Stable

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### **Incompatibility (Materials to Avoid):**

Strong alkalis. High temperatures in the presence of strong bases, acids, strong oxidizing agents. Do not mix this product with nitrites or other nitrosating agent because nitrosamines may be formed.

### **Decomposition/By Products:**

Carbon monoxide and/or carbon dioxide. Oxides of nitrogen.

### **Hazardous Polymerization:**

Will not occur.

### ***XI. Toxicological Information:***

Contains one or more amines which may react with nitrites to form nitrosamines.

### ***XII. Ecological Information:***

No data available

### ***XIII. Disposal Considerations:***

DISPOSAL: This container may be recycled in a recycling centers when empty. Before offering for recycling, empty the can or bottle by using the product according to the label. If recycling is not available, wrap the container and discard in the trash. Dispose of unused product in accordance with all local, state government and federal laws and regulations

### ***XIV. Transport Information:***

U.S. Department of Transportation (DOT)  
Non-Bulk: Not Regulated  
Bulk: Not Regulated

International Information:  
Vessel: IMDG Regulated: no  
Air: ICAO Regulated: no

### ***XV. Regulatory Information:***

USA TSCA: All chemicals used are listed on the TSCA Inventory.  
CERCLA: The following components of this product are specifically listed as hazardous substances in 40 CFR 302.4 and are present at levels which could require reporting:  
Ethylene Glycol Monoethyl Ether (CAS# 110-80-5) <= 0.010%  
SARA, SECTION 313 TITLE III: This product contains glycol ethers which are subject to reporting requirement.

WARNING: This product contains chemicals known to the State of California to cause cancer and/or birth defects or other reproductive harm.

#### **STATE/LOCAL:**

Pennsylvania Right-to-Know Chemicals:  
Diethylene Glycol (111-46-6)  
Triethylene Glycol (112-27-6)  
Triethylene Glycol Monobutyl Ether (143-22-6)

New Jersey Right-to-Know Chemicals:  
Triethylene Glycol (143-22-6)

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## ***XVI. Other Information:***

Do not used in confined area without proper ventilation. Contact lenses may cause further damage in case of splash into eye.  
KEEP AWAY FROM CHILDREN AND ANIMALS!

N/E: Not Established

N/D: Not Determined

N/A: Not Applicable

N/AV: Not Available

KEEP AWAY FROM CHILDREN AND ANIMALS. WEARING CONTACT LENSES IS INADVISABLE WHEN USING THIS PRODUCT.

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