

MATERIAL SAFETY DATA SHEET

PRODUCT NAME: Brake Fluid - BF/14P

Manufactured by:

Justice Brothers, Inc.
2734 East Huntington Drive
Duarte, CA 91010

Emergency Health Information: (800) 424-9300
Emergency Spill Information: (800) 424-9300
CHEMTREC, U.S.A.

Hazard Ratings:

NFPA Code: Health: 2 Fire: 1 Reactivity: 0
HMIS Code: Health: 2 Fire: 1 Reactivity: 0

SECTION 1 - MATERIAL IDENTIFICATION AND INFORMATION

Components:

Trade Secret Alkyl Ester (CAS-Trade Secret) $\geq 30 \leq 50\%$
Triethylene glycol monobutyl ether (CAS 143-22-6) $\geq 10 \leq 40\%$
Triethylene glycol monomethyl ether (CAS 112-35-6) $\leq 20\%$
Polyethylene glycol monomethyl ether (CAS 9004-74-4) $\leq 20\%$
Polyethylene glycol monobutyl ether (CAS 9004-77-7) $\leq 20\%$
Poly(ethylene oxide) (CAS 25322-68-3) $\geq 5 \leq 15\%$
Inhibitor Package (CAS-Trade Secret) $\geq 1 \leq 3\%$, TWA8 ACGIH 2 mg/m³,
TWA8 OSHA 2mg/m³

SECTION 2 - PHYSICAL/CHEMICAL CHARACTERISTICS

Boiling Point (760 mmHg): $> 200^{\circ}\text{C}$ ($> 392^{\circ}\text{F}$)
Vapor Pressure at 20°C: < 0.01 mmHg < 0.001 kPa
Vapor Density (air=1): 9
Solubility in Water: $< 0.5\%$
Specific Gravity: 1.047 g/cc @ 20°C
% Volatile: 0.5 Wt%
Evaporation Rate (Butyl Acetate = 1): < 0.01
Appearance and Odor: Transparent pale yellow with mild ethereal odor.
Freezing Point: Pour point -59°C (-75°F)

SECTION 3 - FIRE AND EXPLOSION DATA

Flash Point: Pensky-Martens Closed Cup 135°C (275°F)

LEL: Not determined UEL: Not determined

Extinguisher Media: Extinguish fires with water spray or apply alcohol-type or all-purpose-type foam by manufacturer's recommended techniques for large fires. Use carbon dioxide or dry chemical media for small fires.

Special Fire Fighting Procedures: Do not direct a solid stream of water or foam into hot, burning pools; this may cause frothing and increase fire intensity.

Special Protective Equipment For Firefighters: Use self-contained breathing apparatus and protective clothing.

Unusual Fire And Explosion Hazards: During a fire, oxides of nitrogen may be produced.

SECTION 4 - REACTIVITY AND STABILITY

Stability: Stable under normal conditions of storage and handling.

Materials to Avoid: Avoid strong acids or bases; selected amines; chlorine, fluorine and other strong oxidizers.

Hazardous Decomposition Products: Burning can produce Oxides of carbon and Nitrogen. Carbon monoxide is highly toxic if inhaled. Carbon dioxide in sufficient concentrations can act as an asphyxiant. Acute overexposure to the products of combustion may result in irritation of the respiratory tract.

Hazardous Polymerization: Will not occur.

SECTION 5 - HEALTH HAZARD DATA

PRIMARY ROUTES OF ENTRY:

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

Eye Contact: Causes moderate to severe irritation, experienced as discomfort or pain, excess blinking and tear production, with marked excess redness and swelling of the conjunctiva. Corneal injury may occur.

Skin Contact: May cause minor irritation with itching and possible slight local redness. Prolonged or repeated contact may cause defatting and drying of the skin.

Skin Absorption: Prolonged or widespread contact may result in the absorption of potentially harmful amounts of material.

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

CHRONIC, PROLONGED OR REPEATED OVEREXPOSURE:

Effects of Repeated Overexposure: Drying and cracking of the skin may result from prolonged exposure to this material because of its defatting action.

Other Effects of Overexposure: Skin contact may cause sensitization and an allergic skin reaction in a small proportion of individuals.

TOXICOLOGICAL INFORMATION:

Significant Data With Possible Relevance To Humans:

In studies in rats, triethylene glycol monomethyl ether produced testicular atrophy when administered in drinking water over a 90-day period at a dosage level of 4 g/kg/day. This effect was not seen at oral dosage levels of 1.2 g/kg/day or when applied to the skin for 90 days at the highest dosage level attainable, 4 g/kg/day. Evidence of developmental toxicity in the presence of material toxicity was noted in offsprings of pregnant rats receiving large oral doses of triethylene glycol monomethyl ether. Doses of 1250 mg/kg/day and higher, administered during the period of organogenesis, were associated with effects typically attributed to delayed development. A dose of 1000 mg/kg was a clear No Observed Effects Level (NOEL) for developmental toxicity in this species. No evidence of developmental toxicity was noted in rabbits even at doses as high as 1500 mg/kg, a dose which was severely toxic to the mothers. Contains one or more amines which may react with nitrites or other nitrosating agents to form nitrosamines. Some nitrosamines have been shown to be carcinogenic in laboratory animals. This product contains an alkyl ester, which may hydrolyze to release the associated acid. Animal injection studies in several species, at high doses, indicate potential reproductive and developmental effects. A human study of occupational exposure to the dust of the hydrolytic product showed no effect on reproduction.

SECTION 6 - CONTROL AND PROTECTIVE MEASURES

PERSONAL PROTECTION:

Respiratory Protection: None expected to be needed.

Gloves: Polyvinyl chloride coated.

Eye Protection: Safety glasses or monogoggles.

Other Protective Equipment: Eye bath, safety shower.

Ventilation: General (mechanical) room ventilation is expected to be satisfactory.

FIRST AID:

Inhalation: If any symptoms develop, remove to fresh air.

Eye Contact: Immediately flush eyes with water and continue washing for at least 15 minutes. Remove contact lenses, if worn. Obtain medical attention if discomfort persists.

Skin Contact: Remove contaminated clothing. Wash skin with soap and water. Obtain medical attention if irritation persists. Wash clothing before reuse.

Swallowing: If a large quantity (several ounces) has been swallowed, and if fully conscious, give two glasses of water. Induce vomiting. This should be done only by medical or experienced first-aid personnel. Obtain medical attention.

*Notes to Physician:

There is no specific antidote. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient.

SECTION 7 - PRECAUTIONS FOR SAFE HANDLING AND USE/LEAK PROCEDURES

Steps to be taken if Material is Spilled or Released:

Small spills should be flushed with large quantities of water. Large spills should be collected for disposal.

Other Precautions: Do not add nitrites or other nitrosating agents. A nitrosamine, which may cause cancer, may be formed.

Storage: Glycol ethers as a family of solvents can be stored in carbon steel. Stainless steel or high baked, phenolic-lined tanks may be considered for critical applications sensitive to slight discoloration or trace iron contamination. Piping can be made of the same materials as the storage tank. A centrifugal pump is suitable for transfer services. Butyl rubber or EPDM can be used for gaskets and packing. NOTE: UCC does not recommend using aluminum, copper, galvanized iron and steel, Viton, neoprene, nitrile or natural rubber with glycol ethers. Glycol ethers do not present a significant flammability hazard at normal storage temperatures. They have relatively low vapor pressures, viscosities and freezing points.

SECTION 8 - TRANSPORTATION

USA DOT/Local Shipment by Land:
Not regulated.

International shipment by Water or (by Boat):
Not regulated.

SECTION 9 - REGULATORY INFORMATION

California Proposition 65 (Safe Drinking Water And Toxic Enforcement Act Of 1986

This product contains the following chemical (s) known to the State of California to cause birth defects and/or other reproductive harm.

Ethylene Glycol Monomethyl Ether (CAS# 109-86-4) <= 0.0100%

Superfund Amendments and Reauthorization Act of 1986 Title III (EPCRA) Section 313

The following components of this product are listed as toxic chemicals in 40 CFR 372.65 and are present at levels which could require reporting and customer notification under Section 313 and 40 CFR Part 372.

Glycol Ethers (CAS# Not Available) <= 60.00%

NOTE: The information contained in this Material Safety Data Sheet is furnished without warranty of any kind, expressed or implied. Information in this Data Sheet has been assembled by the manufacturer based on its own studies and on the work of others and is believed to be correct as of the date issued. However, no warranty of any kind is expressed or implied as to the accuracy, completeness, or adequacy of the information obtained herein. The Manufacturer shall not be liable, regardless of fault, to the vendee, the vendee's employees, or anyone for any direct, special or consequential damages arising out of or in connection with the accuracy, completeness, or adequacy of the information obtained herein. It is intended to assist in the normal safe usage of the product.