MATERIAL SAFETY DATA SHEET

1. Product And Company Identification

MSDS ID: MSDS042
PRODUCT NAME: Prestone® Hi-Temp Brake Fluid DOT 3
PRODUCT NUMBER: AS400, AS400Y, AS401, AS401Y, AS402, AS402-6, AS403, AS405, AS455
FORMULA NUMBER: 436, 2075-28, 2075-36, 2276-69, 2396-88, 310, 345, 360, 2488-67

MANUFACTURER:
Prestone Products Corporation
Danbury, CT 06810-5109

CANADIAN OFFICE:
FRAM Group (Canada), Inc.
Mississauga, Ontario L5L 3S6

MEDICAL EMERGENCIES AND ALL OTHER INFORMATION PHONE NUMBER:
(800)890-2075 (in the US)
(800)668-9349 (in Canada)
TRANSPORTATION EMERGENCY PHONE NUMBER (Chemical Spills and Transport Accidents only):
CHEMTREC 1-800-424-9300 (in the US)
CANUTEC (613)996-6666 (in Canada)
MSDS DATE OF PREPARATION/REVISION: 04/25/2012
PRODUCT USE: Automobile brake fluid – consumer product

2. Hazards Identification

Clear amber liquid with a mild odor.

EMERGENCY OVERVIEW

Eye contact may cause irritation with possible corneal injury. May cause mild skin irritation or sensitization. Harmful if absorbed through the skin. Breathing high concentrations of vapors or mists may cause irritation, headache, dizziness, drowsiness, nausea, loss of sense of balance and visual disturbances. Swallowing may cause gastrointestinal disturbances including irritation, abdominal pain, back pain, nausea, vomiting, diarrhea, headache, dizziness, drowsiness, nausea, visual disturbances, decreased urine production, malaise, unconsciousness and liver or kidney damage. May cause chronic effects.

3. Composition/Information On Ingredients

Component	CAS No.	Amount
Triethylene glycol monobutyl ether	143-22-6	20-75%
Triethylene glycol monomethyl ether	112-35-6	0-30%
Triethylene glycol monoethyl ether	112-50-5	0-40%
Tetraethylene glycol monobutyl ether	1559-34-8	0-15%
Diethylene glycol monobutyl ether	112-34-5	1-30%
Diethylene glycol monoethyl ether	111-90-0	0-2%
Tetraethylene glycol	112-60-7	0-20%
Diethylene glycol	111-46-6	0-60%
Triethylene glycol	112-27-6	0-20%
Polyethylene glycol	25322-68-3	0-20%
Polyethylene glycol monomethyl ether	9004-74-4	0-20%
Polyethylene glycol monobutyl ether	9004-77-7	0-20%
Polyethylene glycol monoethyl ether	27879-07-8	0-5%
Pentaethylene glycol monobutyl ether	23601-39-0	0-5%
Pentaethylene glycol	4792-15-8	0-10%
Sodium phosphate	7601-54-8	0-5%
Diisopropanolamine	110-97-4	0-5%
Methyldiethanolamine	105-59-9	0-5%

Component	CAS No.	Amount
Inhibitor package	Mixture	0-2%

(See Section 8 for Exposure Limits)

4. First Aid Measures

INHALATION: Remove to fresh air if effects occur and seek medical attention.

SKIN CONTACT: Remove contaminated clothing. Wash all affected and exposed areas with soap and water. If skin irritation or redness develops or persists, seek medical attention.

EYE CONTACT: Exposed eyes should be immediately flushed with copious amounts of water using a steady stream for a minimum of 15 minutes. If irritation, pain, swelling or tearing develop, seek medical attention.

INGESTION: If swallowed, get immediate medical advice by calling a Poison Control Center or hospital emergency room. If advice is not available, take victim and product container to the nearest emergency treatment center or hospital. Do not attempt to give anything by mouth to an unconscious person.

NOTES TO PHYSICIAN: It is estimated that the lethal oral dose of diethylene glycol in adults is 1.0-1.2 ml/kg. Diethylene glycol may cause an elevated anion-gap metabolic acidosis and renal tubular injury. Liver injury may occur, but not as severe as kidney injury. The signs and symptoms in diethylene glycol poisoning are those of metabolic acidosis, CNS depression and kidney injury. Urinalysis may show albuminuria, hematuria and oxaluria. The current medical management of diethylene glycol poisoning includes elimination of diethylene glycol, correction of metabolic acidosis and prevention of kidney injury. It is essential to have immediate and follow-up urinalysis and clinical chemistry. There should be particular emphasis on acid-base balance, and liver and kidney function tests. For severe and/or deteriorating cases, hemodialyis may be required. Dialysis should be considered for patients who have severe metabolic acidosis, or compromise of renal function. There is no conclusive evidence that ethanol treatment will be beneficial. 4-Methyl pyrazole (Fomepizole®) shows some promise as treatment because of its apparent lack of toxicity. Consult your poison control center.

5. Firefighting Measures

EXTINGUISHING MEDIA: Use water spray or fog, foam, carbon dioxide or dry chemical. Cool fire exposed containers with water. A direct stream of water or foam may cause frothing.

SPECIAL FIRE FIGHTING PROCEDURES: Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing for fires in areas where chemicals are used or stored.

UNUSUAL FIRE HAZARDS: Violent steam generation or eruption may occur upon application of direct water stream to hot liquids.

HAZARDOUS COMBUSTION PRODUCTS: Burning may produce carbon monoxide, carbon dioxide, and nitrogen oxides.

6: Accidental Release Measures

Wear appropriate protective clothing and equipment (See Section 8). Collect material with absorbent material and place in appropriate, labeled container for disposal.

7. Handling and Storage

Avoid eye contact.
Avoid prolonged skin contact.
Avoid breathing vapors and mists.
Use with adequate ventilation.
Wash exposed skin thoroughly with soap and water after use.
Keep away from excessive heat and open flames.
Do not add nitrites or other nitrosating agents. Nitrosamine, which may cause cancer, may be formed.
Keep containers closed when not in use.
Store in a cool, dry area.
Sudden release of hot organic chemical vapors or mists from process equipment operating at elevated temperature and pressure, or sudden ingress of air into vacuum equipment, may result in ignitions without any obvious ignition sources.
Spills of this product on hot, fibrous insulation may result in spontaneous combustion.
Empty containers retain product residue and may be hazardous. Do not cut, weld, drill, etc. containers, even empty. Do not reuse empty containers unless properly cleaned.

NFPA Classification: Not Applicable

8. Exposure Controls / Personal Protection

EXPOSURE LIMITS

CHEMICAL	EXPOSURE LIMIT
Triethylene glycol monobutyl ether	None Established
Triethylene glycol monomethyl ether	None Established
Triethylene glycol monoethyl ether	None Established
Tetraethylene glycol monobutyl ether	None Established
Diethylene glycol monobutyl ether	35 ppm TWA Manufacturer
Diethylene glycol monoethyl ether	25 ppm TWA AIHA WEEL
Tetraethylene glycol	10 mg/m^3 TWA Manufacturer
Diethylene glycol	10 mg/m^3 TWA AIHA WEEL
Triethylene glycol	100 mg/m^3 TWA Manufacturer
Polyethylene glycol	10 mg/m^3 TWA AIHA WEEL
Polyethylene glycol monomethyl ether	None Established
Polyethylene glycol monobutyl ether	None Established
Polyethylene glycol monoethyl ether	None Established
Pentaethylene glycol monobutyl ether	None Established
Pentaethylene glycol	10 mg/m^3 TWA Manufacturer
Sodium phosphate	None Established
Diisopropanolamine	10 ppm Manufacturer
Methyldiethanolamine	None Established
Inhibitor package	None Established

VENTILATION: General ventilation should be adequate for normal use. For operations where the product is heated or misted and exposures may be excessive, mechanical ventilation such as local exhaust may be needed to minimize exposure.

RESPIRATORY PROTECTION: None under normal use conditions. For operations where exposures may be excessive, a NIOSH/MSHA approved respirator with an organic vapor cartridge and a dust/mist prefilter or supplied air respirator is recommended. Equipment selection depends on contaminant type and concentration. Select in accordance with 29 CFR 1910.134 and good industrial hygiene practice. For firefighting, use self-contained breathing apparatus.

GLOVES: Chemical resistant gloves such as PVC coated gloves are recommended to prevent prolonged/repeated skin contact.

EYE PROTECTION: Splash proof goggles are recommended to prevent eye contact.

OTHER PROTECTIVE EQUIPMENT/CLOTHING: Protective clothing if needed to avoid prolonged/repeated skin contact. Suitable washing and eye flushing facilities should be available in the work area. Contaminated clothing should be removed and laundered or dry cleaned before re-use.

9. Physical and Chemical Properties

APPEARANCE AND ODOR: Clear amber or yellow liquid, mild odor.

pH: Not determined
BOILING POINT (F): >450°F
FREEZING POINT (F): <-60°F
SOLUBILITY IN WATER: 100%
VISCOSITY: Not determined
FLASH POINT: Greater than 250°F (>121°C) PMCC
FLAMMABILITY LIMITS: LEL: Not determined
SPECIFIC GRAVITY: 1.00-1.07
VAPOR PRESSURE: <0.01 mmHg @ 20°C
VAPOR DENSITY: >1
PERCENT VOLATILE: 100%
EVAPORATION RATE: Not determined
AUTOIGNITION TEMPERATURE: Not determined
UEL: Not determined
COEFFICIENT OF WATER/OIL DISTRIBUTION: Not determined

10. Stability and Reactivity

STABILITY: Stable
CONDITIONS TO AVOID: Contact with nitrites or other nitrosating agents may produce nitrosamine, a known animal carcinogen.
INCOMPATIBILITY: Strong oxidizing agents, acids and strong alkalies.
HAZARDOUS DECOMPOSITION PRODUCTS: Thermal decomposition will product carbon monoxide, carbon dioxide, nitrogen oxides, aldehydes, ketones, organic acids.
HAZARDOUS POLYMERIZATION: Will not occur.

11. Toxicological Information

POTENTIAL HEALTH EFFECTS:

ACUTE HAZARDS:
INHALATION: None expected from short term exposures at ambient temperatures. At elevated temperatures, product may cause respiratory irritation, headache, dizziness, drowsiness, nausea, loss of sense of balance and visual disturbances. High concentrations of vapors at ambient temperatures may cause lung injury, liver dysfunction or kidney damage.

SKIN CONTACT: Prolonged or repeated exposure may cause mild irritation with redness and discomfort. Prolonged contact may cause defatting or drying of the skin.

DERMAL TOXICITY: Prolonged or widespread contact may result in the absorption of potentially harmful amounts resulting in effects similar to those listed under ingestion. Massive contact with damaged skin or with material sufficiently hot to burn the skin may result in absorption of potentially lethal amounts.

EYE CONTACT: May cause irritation with tearing, blurred vision and possible corneal damage.

INGESTION: Ingestion may cause abdominal pain, back pain, nausea, vomiting, diarrhea, headache, dizziness, drowsiness, nausea, visual disturbances, decreased urine production, malaise, cardiopulmonary effects (metabolic acidosis), unconsciousness and liver or kidney damage.

CHRONIC HAZARDS: Prolonged or repeated skin contact with this product may possibly lead to irritation and dermatitis. Prolonged or repeated exposures may cause damage to the central nervous system, blood, lung, liver or kidneys. Adverse reproductive effects may also occur.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: May aggravate pre-existing skin, blood, lung, liver and kidney disorders.

CARCINOGEN: None of the components is listed as a carcinogen or potential carcinogen by IARC, NTP, ACGIH, or OSHA.

Acute Toxicity Values:

Triethylene glycol monobutyl ether: Oral rat LD50: 6.73 ml/kg; Skin rabbit LD50: 3.4 ml/kg
Triethylene glycol monomethyl ether: Oral rat LD50: 11,800 mg/kg; Skin rabbit 7,400 mg/kg
Diethylene glycol monobutyl ether: Oral rat LD50: 6,540 mg/kg
Diethylene glycol monoethyl ether: Oral rat LD50: 5,540 mg/kg
Tetraethylene glycol: Oral rat LD50: 32,800 mg/kg
Diethylene Glycol: Oral rat LD50: 12,565 mg/kg; Skin rabbit LD50: 11,890 mg/kg
Triethylene Glycol: Oral rat LD50: 17 gm/kg; Skin rabbit LD50: >20 mL/kg
Diisopropanolamine: Oral rat LD50: 4765 mg/kg, Skin rabbit LD50: 8000 mg/kg
Methyldiethanolamine: Oral rat LD50: 1945 mg/kg, Inhalation rat LD50: >6.5 mg/m3/6H

12. Ecological Information

Diethylene glycol monobutyl ether: LC50 Goldfish 2700 mg/l/24 hr
Diethylene glycol monoethyl ether: LC50 Fathead minnows 26.5 g/l/96 hr
Triethylene glycol: LC50 Fathead minnows 59.9 - 77.4 g/l/96 hr
Diisopropanolamine: LC50 Fathead minnow 580 mg/L/ 96 hr; EC50 daphnia magna 277.7 mg/L/24 hr.

13. Disposal Considerations

Recycle, incinerate, treat or landfill in accordance with all local, state/provincial and federal regulations.

14. Transport Information

U.S. DOT HAZARD CLASSIFICATION
PROPER SHIPPING NAME: Not Regulated
TECHNICAL NAME: N/A
UN NUMBER: N/A
HAZARD CLASS/PACKING GROUP: N/A
LABELS REQUIRED: N/A

DOT MARINE POLLUTANTS: This product does not contain Marine Pollutants as defined in 49 CFR 171.8.

IMDG CODE SHIPPING CLASSIFICATION
DESCRIPTION: Not Regulated
ID NUMBER: N/A
HAZARD CLASS: N/A
PACKING GROUP: N/A
LABELS REQUIRED: N/A
PLACARDS REQUIRED: N/A

CANADIAN TDG CLASSIFICATION
PROPER SHIPPING NAME: Not Regulated
ID NUMBER: N/A
HAZARD CLASS: N/A
PACKING GROUP: N/A
LABELS REQUIRED: N/A
PLACARDS REQUIRED: N/A

15. Regulatory Information

EPA SARA 311/312 HAZARD CLASSIFICATION: Acute Health, Chronic Health

EPA SARA 313: This Product Contains the Following Chemicals Subject to Annual Release Reporting Requirements Under SARA Title III, Section 313 (40 CFR 372):

Glycol Ethers	NA	<100%

PROTECTION OF STRATOSPHERIC OZONE: This product is not known to contain or to have been manufactured with ozone depleting substances as defined in 40 CFR Part 82, Appendix A to Subpart A.

CERCLA SECTION 103: This product is not subject to CERCLA reporting requirements, however, many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

CALIFORNIA PROPOSITION 65: This product does not contain chemicals regulated under California Proposition 65.

EPA TSCA INVENTORY: All of the components of this material are listed on the Toxic Substances Control Act (TSCA) Chemical Substances Inventory.

CANADIAN ENVIRONMENTAL PROTECTION ACT: All of the ingredients are listed on the Canadian Domestic Substances List.

CANADIAN WHMIS CLASSIFICATION: Class D - Division 2 - Subdivision B - (Toxic material causing other chronic effects)

CANADIAN WHIMIS HAZARD SYMBOLS: 

This MSDS has been prepared according to the criteria of the Controlled Products Regulation (CPR) and the MSDS contains all of the information required by the CPR.

EUROPEAN INVENTORY OF EXISTING COMMERCIAL CHEMICAL SUBSTANCES (EINECS): All of the ingredients are listed on the EINECS inventory.

AUSTRALIA: All of the ingredients of this product are listed on the Australian Inventory of Chemical Substances.

JAPAN: All of the ingredients of this product are listed on the Japanese Existing and New Chemical Substances (METI) List.

CHINA: All of the ingredients of this product are listed on the Inventory of Existing Chemical Substance in China (IECSC).

16. Other Information

NFPA Rating: Fire: 1 Health: 2 Reactivity: 0

REVISION SUMMARY: Section 1, 3, 8, 11: Addition of formula.

This MSDS is directed to professional users and bulk handlers of the product. Consumer products are labeled in accordance with Federal Hazardous Substances Act regulations.

While Prestone Products Corporation believes that the data contained herein are factual and the opinions expressed are those of qualified experts regarding the results of tests conducted, the data are not to be taken as a warranty or representation for which Prestone Products Corporation assumes legal responsibility. They are offered for your consideration, investigation and verification. Any use of these data and information must be determined by the user to be in accordance with applicable federal, state and local laws and regulations.

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