Lubrication Technologies Material Safety Data Sheet

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SECTION 1 CHEMICAL PRODUCT IDENTIFICATION

Product: **DRAG SPECIALTIES DOT 4 BRAKE FLUID**
Synonyms/Other: Not applicable
Item Number(S): 805-00010-12 P/N 37030013
MSDS Number: 2085
Product Type: Glycol
Preparation/Revision Date: 08/06/2007

SECTION 2 COMPOSITION INFORMATION

INGREDIENTS	CAS #	%	OSHA TWA	OSHA STEL	ACGIH TWA	SKIN
Triethylene Glycol Monobutyl Ether	143-22-6	50-60	NE	NE	NE	NO
Polyethylene Glycol Monobutyl Ether	9004-77-7	10-20	NE	NE	NE	NO
Diethylene Glycol	111-46-6	10-20	NE	NE	NE	NO
Diethylene Glycol Monobutyl Ether	112-34-5	<5	NE	NE	NE	NO
Sodium Hydroxide	1310-73-2	<1	2 mg/m^3	NE	NE	NO
Piperazine	110-85-0	<1	NE	NE	NE	NO

Comments: * - Contains glycol ethers subject to SARA III Section 313 requirements.
NE-Not Established
TWA – Time Weighted Average is the employee's average airborne exposure in any 8-hour work shift of a 40-hour work week which shall not be exceeded.
STEL – Short Term Exposure Limit is the employee's 15-minute time weighted average exposure which shall not be exceeded at any time during a work day unless another time limit is specified.

SECTION 3 HAZARDOUS IDENTIFICATION

WARNING:
- CAUSES EYE IRRITATION
- MAY CAUSE SKIN IRRITATION
- HARMFUL IF SWALLOWED
- MAY BE HARMFUL IF ABSORED THROUGH SKIN
- IN CASE OF SPILL ISOLATE AREA

Eye contact: Direct contact causes irritation, redness, tearing and blurred vision.

Skin contact: Avoid prolonged skin contact. This product contains materials that may cause skin irritation. Prolonged or repeated contact may result in dermatitis (dryness, chapping and reddening of skin).

Inhalation: Overexposure by inhalation may cause nonspecific discomfort, such as nausea, headache, or weakness. Caution should be taken to prevent aerosolization or misting of this product without proper respiratory protection.

Ingestion: Oral toxicity is expected to be moderate in humans due to the level of diethylene glycol in this product. Ingesting large amounts may cause central nervous system effects, metabolic acidosis, and kidney failure.

SECTION 4 FIRST AID MEASURES

Eye contact: Flush immediately with large amounts of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Get medical attention if irritation persists.

Skin contact: Remove contaminated clothing. Wash contaminated area thoroughly with soap and water. If redness or irritation occurs, seek medical attention. Wash contaminated clothing before reuse.

Inhalation: If overcome by inhalation of vapors, remove to fresh air. Use oxygen if there is difficulty breathing or artificial respiration if breathing has stopped. Do not leave victim unattended. Seek immediate medical attention if necessary.

Ingestion: Do not induce vomiting because of danger of aspirating liquid into lungs,

causing serious damage and chemical pneumonitis. If spontaneous vomiting occurs keep head below hips to prevent aspiration and monitor for breathing difficulty. Contact physician immediately. Keep affected person warm and at rest. If medical attention is not available and the affected person has swallowed several ounces of fluid administer three to four ounces of hard liquor such as 80 proof whiskey. For children, give proportionately less at a dose of 0.3 ounces of hard liquor for each 10 pounds of body weight.

NOTE TO PHYSICIAN: Due to structural analogy and clinical data this material may have a mechanism of toxicity similar to ethylene glycol. In cases where 60-100 mls have been ingested treatment with ethanol and hemodialysis can be effective. 4-methyl pyrazole (Antizol^{R}) is also effective as an alcohol dehydrogenase inhibitor.

SECTION 5 FIRE FIGHTING MEASURES

Flash point: 135°C (typical by ASTM D 92 COC).

Flammable limits: Not determined.

Extinguishing media: Use water spray, dry chemical, alcohol foam, all purpose AFFF or carbon dioxide to extinguish fire.

Special firefighting procedures: Evacuate area and fight fire from a safe distance. If leak or spill has not ignited, ventilate area and use water spray to disperse gas or vapor and to protect personnel attempting to stop a leak.

Use water spray to cool adjacent structures and to protect personnel. Shut off source of flow if possible (safely). Stay away from storage tank ends. Withdraw immediately in case of rising sound from venting safety device or any discoloration of storage tank due to fire.

Fire fighters must wear MSHA/NIOSH approved positive pressure breathing apparatus (SCBA) with full face mask and full protective equipment.

Unusual fire & explosion hazards: Dense smoke may be generated while burning. Toxic fumes, gases or vapors may evolve on burning. Heavy flammable vapors may settle along ground level and low spots to create an invisible fire hazard. The vapors may extend to sources of ignition and flash back.

Byproducts of combustion: Fires involving this product may release oxides of carbon, nitrogen, reactive hydrocarbons and irritating vapors.

Autoignition temperature: Not determined.

Explosion data: Not determined. Care should always be exercised in dust/mist areas.

Other: Not applicable.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Spill control procedures (land): Immediately turn off or isolate any source of ignition (pilot lights, electrical equipment, flames, heaters, etc.). Evacuate area and ventilate. Personnel wearing proper protective equipment should contain spill immediately with inert materials (sand, earth, chemical spill pads of cotton) by forming dikes. Dikes should be placed to contain spill in a manner that will prevent material from entering sewers and waterways. Large spill, once contained, may be picked up using explosion proof, non-sparking vacuum pumps, shovels, or buckets, and disposed of in suitable containers for disposal. If a large spill occurs notify appropriate authorities.

Spill control procedures (water): Material is heavier than water, and is expected to sink. If visible on surface, remove from surface by skimming or with suitable adsorbents. If a large spill occurs notify appropriate authorities (normally the National Response Center or Coast Guard).

SECTION 7 HANDLING AND STORAGE

Handling procedures:	Keep containers closed when not in use. Do not transfer to unmarked containers. Fire extinguishers should be kept readily available. See NFPA 30 and OSHA 1910.106 -- Flammable and Combustible Liquids. Empty containers retain product residue which may exhibit hazards of material, therefore do not pressurize, cut, glaze, weld, or use for any other purposes. Return drums to reclamation centers for proper cleaning and reuse.
Storage procedures:	Store containers away from heat, sparks, open flame, or oxidizing materials.
Additional information:	No additional information.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Personal protection:	Applicable mainly to persons in repeated contact situations such as packaging of product, service/maintenance, production, and cleanup/spill control personnel.
Respiratory protection:	A respiratory protection program meeting OSHA 1910.134 and ANSI Z88.2 requirements should be followed. Where misting may occur, wear an MSHA/NIOSH approved (or equivalent) half-mask form dust/mist air purifying respirator.
Eye protection:	Eye protection is strongly recommended. If material is handled such that it could be splashed into the eyes, wear safety glasses with side shields or vented/splash proof goggles (ANSI Z87.1 or approved equivalent).
Hand protection:	Impervious gloves such as neoprene or nitrile rubber to avoid skin sensitization and absorption.
Other protection:	Use of an apron and overboots of chemically impervious materials such as neoprene or nitrile rubber is recommended to avoid skin sensitization and absorption. If handling hot material use insulated protective equipment. Launder soiled clothes. Properly dispose of contaminated leather articles and other materials which cannot be decontaminated.
Local control measures:	Use adequate ventilation when working with material in an enclosed area. Mechanical methods such as fume hoods or area fans may be used to reduce localized vapor/mist areas. If vapor or mist is generated when the material handled, adequate ventilation in accordance with good engineering practice must be provided to maintain concentrations below the specifed exposure. Eyewash stations and showers should be available in areas where this material is used and stored.
Other:	Consumption of food and drink should be avoided in work areas where product is present. Always wash hands and face with soap and water before eating, drinking or smoking.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Vapor pressure:	Not tested.
Specific gravity:	1.02 at 15.6°C (60.0°F).
Solubility:	100 % in water (estimated)
Percent volatile:	Negligible.
Vapor density (air=1):	Not determined.
Evaporation rate (n-Butyl Acetate=1):	Negligible.
Odor:	Mild odor.
Appearance:	Water-white, thin fluid.
Viscosity:	Not determined.
Boiling point:	>221°C (ASTM E1719)
Pour/Freeze point:	Not determined.
Other:	Not applicable.

SECTION 10 STABILITY AND REACTIVITY

Stability:	Material is stable at room temperatures and pressure.
Conditions to avoid:	Avoid high temperatures and product contamination.
Incompatibility with	

other materials:	Avoid contact with strong acids, bases and oxidizing materials.
Thermal Decomposition products:	Thermal decomposition products depend on temperature, air supply and the presence of other materials. Decomposition products may include but are not limited to: aldehydes, ketones and organic acids.
Hazardous polymerization:	Will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

Oral toxicity:	The oral LD50 has not been determined for this product as a whole. The LD50 for diethylene glycol (a component of this product) is approximately 2 ounces for an adult person.
Dermal toxicity:	The dermal LD50 has not been established.
Inhalation toxicity:	A component of this product may cause allergic reactions when inhaled.
Dermal sensitization:	Prolonged or repeated contact may make skin more sensitive to other skin sensitizers. Based on data from similar materials.
Carcinogenicity:	No components of this product are listed as known carcinogens.
Mutagenicity:	Not expected to have negative effects.
Reproductive toxicity:	Diethylene glycol did not interfere with reproduction in animal studies except at very high doses.

SECTION 12 ECOLOGICAL INFORMATION

Environmental toxicity:	This material may be toxic to aquatic organisms and should be kept out of sewage and drainage systems and all bodies of water.
Environmental fate:	This material is expected to be readily biodegradable. Bioconcentration potential is low.
Other:	Not applicable.

SECTION 13 DISPOSAL CONSIDERATIONS

Waste disposal:	Under RCRA it is the responsibility of the user of the product to determine at the time of disposal whether the product meets RCRA criteria for hazardous waste. This product unadulterated by other materials may be classified as a non-regulated waste in some areas - but still needs to be disposed of at approved facilities. Waste management should be in full compliance with federal, state, and local laws.
Disposal consideration:	Under RCRA it is the responsibility of the user of the product to determine at the time of disposal whether the product meets RCRA criteria for hazardous waste. This product unadulterated by other materials may be classified as a non-regulated waste in some areas - but still needs to be disposed of at approved facilities. Waste management should be in full compliance with federal, state, and local laws.
Other:	The transportation, storage, treatment and disposal of RCRA waste material must be conducted in compliance with 40 CFR 262, 263, 264, 268 and 270. Disposal can only occur in properly permitted facilities. Check state and local regulations for any additional requirements as these may be more restrictive than federal laws and regulations. Chemical additions, processing or otherwise altering this material may make the waste management information presented in this MSDS incomplete, inaccurate or otherwise inappropriate. Disposal of this material must be conducted in compliance with all federal, state, and local regulations.

SECTION 14 TRANSPORT INFORMATION

U.S. DOT shipping description:	None assigned.
U.S. DOT identification number:	None assigned.
U.S. DOT hazard classification:	Non-hazardous by DOT regulations.

Packaging class: None assigned.
Other: Not applicable.

SECTION 15 REGULATORY INFORMATION

Clean water act/oil pollution act: Not applicable.
TSCA: All components of this material are listed in the U.S. TSCA Inventory.
Other TSCA: Not applicable.
SARA Title III: Section 302/304 extremely hazardous substances:
None.
Section 311, 312 hazard categorization:

Acute (immediate health effects):	YES
Chronic (delayed health effects):	YES
Fire (hazard):	NO
Reactivity (hazard):	NO
Pressure (sudden release hazard):	NO

Section 313 toxic chemicals:
To the best of our knowledge, this product does not contain reportable quantities of any section 313 chemicals.
CERCLA: For stationary/moving sources – reportable quantity (due to):
Not applicable.
Other: **Pennsylvania Right to Know Chemicals in this product include:**
Diethylene Glycol CAS 111-46-6 10 to 20%
Piperazine CAS 110-85-0 <1%

New Jersey Right to Know Chemicals include:
Piperazine CAS 110-85-0 <1%

SECTION 16 OTHER INFORMATION

	NFPA 704	KEY
HEALTH:	2	0 = Minimal
FIRE:	1	1 = Slight
REACTIVITY:	0	2 = Moderate
SPECIFIC HAZARD:	NONE	3 = Serious
PROTECTION INDEX:	N/A	4 = Severe

External information: This product may be formulated in part with components purchased from other companies. In many instances, especially when proprietary or trade secret materials are used. Lube-Tech must rely upon information provided by those materials manufacturers or distributors.

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File: Drag Specialties DOT 4 Brake Fluid (2085)
Version: I

Revisions / Comments:

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