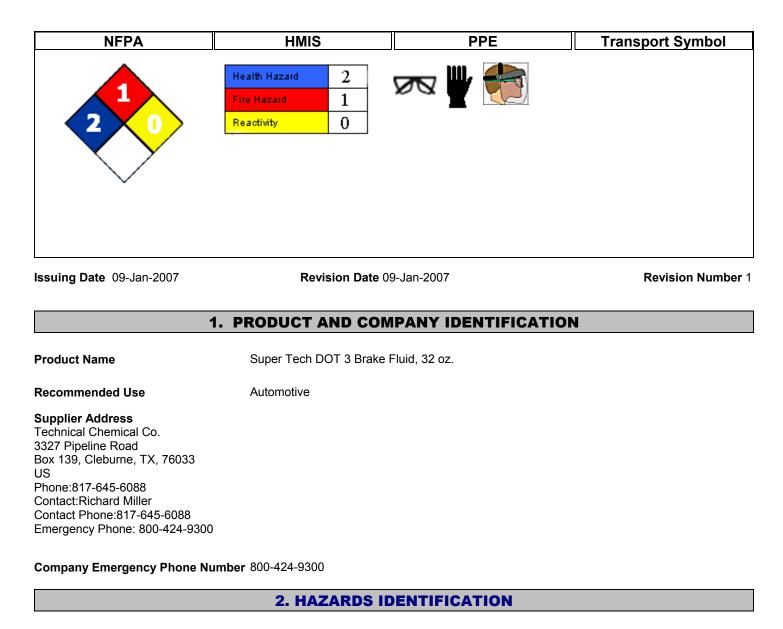
Material Safety Data Sheet



WARNING!

Emergency Overview

Combustible liquid. Irritating to eyes. Vapors may be irritating to eyes, nose, throat, and lungs. Harmful if swallowed. Contains a known or suspected reproductive toxin.

Appearance Light yellow

Physical State Liquid

Odor organic

Potential Health Effects	
Principle Routes of Exposure	Inhalation, Skin contact, Eye contact.
Acute Toxicity Eyes Skin Inhalation Ingestion	Moderately irritating to the eyes. Irritating to skin. May cause irritation of respiratory tract. May be harmful if inhaled. Intentional misuse by deliberately concentrating and inhaling contents may be harmful or fatal. Harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Potential for aspiration if swallowed.
Chronic Effects	Avoid repeated exposure. Experiments have shown reproductive toxicity effects on laboratory animals.
Aggravated Medical Conditions	Preexisting eye disorders. Skin disorders. Kidney disorders.
Environmental Hazard	See Section 12 for additional Ecological information

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %
Triethylene glycol monoethyl ether	112-50-5	10 - 30
Triethylene glycol, monobutyl ether	143-22-6	10 - 30
3,6,9,12-Tetraoxahexadecan-1-ol	1559-34-8	10 - 30
2,5,8,11-Tetraoxatridecan-13-ol	23783-42-8	10 - 30
Ethylene oxide-Propylene oxide copolymer monobutyl	9038-95-3	10 - 30
ether		
Diethylene glycol	111-46-6	5 - 10
Diethylene glycol monobutyl ether	112-34-5	5 - 10
Diethylene glycol monomethyl ether	111-77-3	1 - 5
Diethylene glycol monoethyl ether	111-90-0	1 - 5

4. FIRST AID MEASURES

Eye ContactRinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician.Skin ContactWash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, ca a physician.InhalationMove to fresh air in case of accidental inhalation of vapors. If symptoms persist, call a physician.IngestionClean mouth with water and afterwards drink plenty of water. Drink plenty of water. Do not		5. FIRE-FIGHTING MEASURES
Eye ContactRinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician.Skin ContactWash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, ca a physician.InhalationMove to fresh air in case of accidental inhalation of vapors. If symptoms persist, call a physician.IngestionClean mouth with water and afterwards drink plenty of water. Drink plenty of water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Consult a physician	Protection of First-aiders	Use personal protective equipment.
Eye ContactRinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician.Skin ContactWash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, ca a physician.InhalationMove to fresh air in case of accidental inhalation of vapors. If symptoms persist, call a physician.IngestionClean mouth with water and afterwards drink plenty of water. Drink plenty of water. Do not	Notes to Physician	Treat symptomatically.
Eye ContactRinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician.Skin ContactWash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, cal a physician.InhalationMove to fresh air in case of accidental inhalation of vapors. If symptoms persist, call a	Ingestion	Clean mouth with water and afterwards drink plenty of water. Drink plenty of water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Consult a physician.
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Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep	Skin Contact	Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.
General Advice Show this safety data sheet to the doctor in attendance. If symptoms persist, call a physician	Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician.
	General Advice	Show this safety data sheet to the doctor in attendance. If symptoms persist, call a physician.

5. FIRE-FIGHTING MEASURES							
Flammable Properties					y burn but	does not ignite readily.	
Flash Point			250°C / 4	482°F			
Suitable Extinguishing Media			Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. CO2, dry chemical, dry sand, alcohol-resistant foam.				
Uniform Fire Code			CombIrritant	oustible Liquid: III-l t: Liquid	В		
Hazardous Combustion Produ	ıcts		Carbon c	oxides			
Explosion Data Sensitivity to mechanic Sensitivity to static disc			Not sens Yes	sitive			
Protective Equipment and Pre As in any fire, wear self-containe gear			emand, MS	SHA/NIOSH (appr	roved or ec	quivalent) and full protective	
<u>NFPA</u> Heal	th Hazard 2	Flammabilit	y 1	Stability 0		Physical and Chemica Hazards -	I
	6. ACC		ELEASI	E MEASURE	S		
Personal Precautions	protectiv					d of spill/leak. Use personal Take precautionary measure	
Methods for Containment	Prevent	Prevent further leakage or spillage if safe to do so.					
Methods for Cleaning Up	noncom disposal	Use personal protective equipment. Dam up. Cover liquid spill with sand, earth or other noncombustible absorbent material. Take up mechanically and collect in suitable container for disposal. Clean contaminated surface thoroughly. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.					
	7.	HANDLING	AND S	TORAGE			

HandlingHandle in accordance with good industrial hygiene and safety practice. Take precautionary
measures against static discharges. Ensure adequate ventilation. Wear personal protective
equipment. Avoid contact with skin and eyes. Do not breathe vapors or spray mist.StorageKeep container tightly closed. Keep out of the reach of children. Keep containers tightly closed
in a cool, well-ventilated place. Keep in properly labeled containers.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines	This product does not contain any hazardous materials with occupational exposure limits
	established by the region specific regulatory bodies.

Engineering Measures	Showers Eyewash stations Ventilation systems
Personal Protective Equipment Eye/face Protection Skin and body protection Respiratory Protection	Tightly fitting safety goggles. Face-shield. Long sleeved clothing. Apron. Impervious gloves. No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required
Hygiene Measures	When using, do not eat, drink or smoke. Remove and wash contaminated clothing before re- use. Regular cleaning of equipment, work area and clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Light yellow	Odor	organic
Odor Threshold	No information available	Physical State	Liquid
рН	9		
Flash Point	250°C / 482°F	Autoignition Temperature	Not applicable
Decomposition temperature	No data available	Boiling Point/Range	No data available
Melting Point/Range	No data available		
Flammability Limits in Air	No data available	Explosion Limits	No data available
Specific Gravity	No data available	Water Solubility	Soluble in water
Solubility	No data available	Evaporation Rate	No data available
Vapor Pressure	No data available	Vapor Density	No data available
VOC Content	23.3%	Partition Coefficient (n- octanol/water)	

10. STABILITY AND REACTIVITY

Stability	Stable under recommended storage conditions.
Conditions to Avoid	Heat, flames and sparks.
Incompatible Products	Strong oxidizing agents. Strong acids. Strong bases. Strong reducing agents.
Hazardous Decomposition Products	Thermal decomposition can lead to release of irritating gases and vapors, Carbon oxides.
Hazardous Polymerization	Hazardous polymerization does not occur

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Product Information	
LD50 Oral VALUE (mg/kg)	6573 mg/kg (rat) estimated
LD50 Dermal VALUE	7711 mg/kg (rat) estimated

Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Triethylene glycol monoethyl ether	7750 mg/kg (Rat)	8 mL/kg (Rabbit)	
Triethylene glycol, monobutyl ether	5300 mg/kg (Rat)	3540 µL/kg (Rabbit)	
3,6,9,12-Tetraoxahexadecan-1-ol	5175 mg/kg (Rat)	4000 mg/kg (Rat)	
2,5,8,11-Tetraoxatridecan-13-ol	2000 mg/kg (Rat)		
Ethylene oxide-Propylene oxide	12300 µL/kg (Rat)	20 mL/kg (Rabbit)	
copolymer monobutyl ether			
Diethylene glycol	12565 mg/kg (Rat)	11890 mg/kg (Rabbit)	
Diethylene glycol monobutyl ether	3384 mg/kg (Rat)	2700 mg/kg (Rabbit)	
Diethylene glycol monomethyl ether	4 mL/kg (Rat)	2500 µL/kg (Rabbit)	
Diethylene glycol monoethyl ether	1920 mg/kg (Rat)	4200 µL/kg (Rabbit)	

Subchronic Toxicity (28 days)

Chronic Toxicity	
Chronic Toxicity	Avoid repeated exposure. Experiments have shown reproductive toxicity effects on laboratory animals.
Carcinogenicity	There are no known carcinogenic chemicals in this product
Mutagenicity	
Reproductive Toxicity	An ingredient in this product has been shown to cause adverse effects to offspring when animals were exposed during a long-term feeding study.
Target Organ Effects	None known
Endocrine Disruptor Information	This product does not contain any known or suspected endocrine disruptors.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects.

Chemical Name	Toxicity to Algae	Toxicity to Fish	Microtox	Daphnia Magna (Water Flea)
Triethylene glycol, monobutyl ether	EC50 > 500 mg/L 72 h			EC50 > 500 mg/L 48 h
3,6,9,12-Tetraoxahexadecan- 1-ol	EC50 > 1000 mg/L 96 h		EC50 > 100 mg/L 6 h	EC50 > 1000 mg/L 48 h
Diethylene glycol			EC50 = 29228 mg/L 15 min	EC50 = 0.3 mg/L 96 h EC50 = 84000 mg/L 48 h
Diethylene glycol monobutyl ether	EC50 > 100 mg/L 96 h			EC50 = 2850 mg/L 24 h EC50 > 100 mg/L 48 h
Diethylene glycol monomethyl ether	EC50 > 500 mg/L 72 h		EC50 > 10000 mg/L 17 h	EC50 = 1192 mg/L 48 h EC50 > 500 mg/L 24 h

Chemical Name	Toxicity to Algae	Toxicity to Fish	Microtox	Daphnia Magna (Water Flea)
Diethylene glycol monoethyl				LC50 3940 - 4670 mg/L 48 h
ether				EC50 = 4026 mg/L 48 h

Chemical Name	Log Pow
Triethylene glycol, monobutyl ether	0.51
2,5,8,11-Tetraoxatridecan-13-ol	-0.6
Diethylene glycol	-1.98
Diethylene glycol monomethyl ether	-0.682
Diethylene glycol monoethyl ether	-0.8

- Waste Disposal MethodThis material, as supplied, is not a hazardous waste according to state and federal regulations
(40 CFR 261)
- Contaminated Packaging Dispose of in accordance with local regulations

14. TRANSPORT INFORMATION

	15. REGU
ADN	Not regulated
ADR	Not regulated
RID	Not regulated
IMDG/IMO	Not regulated
IATA	Not regulated
ICAO	Not regulated
MEX	Not regulated
TDG	Not regulated
DOT	Not regulated

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL	Complies
NDSL	Complies
EINECS	Complies
ELINCS	Complies
ENCS	Complies
CHINA	Complies
KECL	Complies
PICCS	Complies
AICS	Complies

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

Chemical Name	CAS-No	Weight %	SARA 313 - Threshold Values
Triethylene glycol monoethyl ether	112-50-5	10 - 30	1.0
Triethylene glycol, monobutyl ether	143-22-6	10 - 30	1.0
Diethylene glycol monobutyl ether	112-34-5	5 - 10	1.0
Diethylene glycol monomethyl ether	111-77-3	1 - 5	1.0
Diethylene glycol monoethyl ether	111-90-0	1 - 5	1.0

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

This product contains the following substances which are listed hazardous air pollutants (HAPS) under Section 112 of the Clean Air Act:

Chemical Name	CAS-No	Weight %	HAPS data	VOC Chemicals	Class 1 Ozone Depletors	Class 2 Ozone Depletors
Triethylene glycol monoethyl ether	112-50-5	10 - 30		Group V		
Triethylene glycol, monobutyl ether	143-22-6	10 - 30				
Diethylene glycol	111-46-6	5 - 10		Group I		
Diethylene glycol monobutyl ether	112-34-5	5 - 10		Group I		
Diethylene glycol monomethyl ether	111-77-3	1 - 5		Group I		
Diethylene glycol monoethyl ether	111-90-0	1 - 5		Group I		

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

Pesticide Information

Chemical Name	FIFRA - Restricted Use	FIFRA - Pesticide Product Other Ingredients	FIFRA - Listing of Pesticide Chemicals	California Pesticides - Restricted Materials
Ethylene oxide-Propylene oxide copolymer monobutyl ether		List 4B - Inert Ingredients		
Diethylene glycol		List 3 - Unknown Toxicity	Х	
Diethylene glycol monobutyl ether		List 2 - Potentially Toxic		
Diethylene glycol monomethyl ether		List 2 - Potentially Toxic		
Diethylene glycol monoethyl ether		List 2 - Potentially Toxic	X	

U.S. State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Triethylene glycol monoethyl ether		Х	X	Х	
Triethylene glycol, monobutyl ether		Х	X	Х	
Diethylene glycol			Х		Х
Diethylene glycol monobutyl ether		Х	Х	Х	
Diethylene glycol monomethyl ether	Х	Х	X	Х	
Diethylene glycol monoethyl ether		Х	Х	Х	

International Regulations

Mexico - Grade Slight risk, Grade 1

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Hazard Class Non-controlled D2A Very toxic materials



16. OTHER INFORMATION

Issuing Date

09-Jan-2007

Revision Date

09-Jan-2007

Revision Note

No information available

Disclaimer

The information provided on this MSDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of MSDS