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MSDS 018
Foxboro Rev Date: April 2007
Part Number 0046721
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Scott Specialty Gases

Material Safety Data Sheets

MSDS No: 60-29-7

Date: 09/29/2005

SUPPLIER ADDRESS: 6141 Easton Road, Bldg. 1
PO Box 310
Plumsteadville, PA 18949-0310

EMERGENCY PHONE NUMBER: (215) 766-8861

1. CHEMICAL PRODUCT

PRODUCT NAME: DIETHYL ETHER

SYNONYMS: Ethyl ether, Ethyl oxide

2. COMPOSITION, INFORMATION ON INGREDIENTS

Ingredient Name	Formula	CAS #	Concentration	Exposure Limits (PPM)			
				ACGIH TLV	OSHA PEL	MAC	Other STEL
DIETHYL ETHER	C4H10O	60-29-7	99+%	400	400	400	500

Note: NE = NONE ESTABLISHED

S/A = SIMPLE ASPHYXIANT

3. HAZARD IDENTIFICATION

*** EMERGENCY OVERVIEW ***

Flammable liquid and vapor.
Can form explosive mixtures with air.
May cause central nervous system damage.
May cause irritation to respiratory tract.

POTENTIAL HEALTH EFFECTS

ROUTES OF ENTRY: Inhalation, Ingestion

ACUTE EFFECTS: Acts as a central nervous system depressant. Breathing vapors may cause headache, nausea, vomiting, loss of consciousness and even death. Skin contact may cause irritation. Prolonged or repeated skin contact with the liquid may lead to drying, cracking, and possible dermatitis. Ingestion causes excitation, unconsciousness and respiratory system paralysis.

CHRONIC EFFECTS: Possible dermatitis from skin contact. Inhalation of vapors results in anorexia, exhaustion, headache, drowsiness, dizziness, jaundice and liver damage.

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE: None known

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OTHER EFFECTS OF OVEREXPOSURE: **None**

CARCINOGENICITY (US ONLY):

NTP - **No**
IARC MONOGRAPHS - **No**
OSHA REGULATED - **No**

4. FIRST AID MEASURES

INHALATION: Immediately remove victim to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen.

EYE CONTACT: Immediately flush eyes, including under the eyelids, gently but thoroughly with plenty of running water for at least 15 minutes. Seek medical attention as soon as possible.

SKIN CONTACT: Immediately flush with copious amounts of water for at least 15 minutes while removing contaminated clothing.

INGESTION: Contact physician immediately. Never give anything by mouth to an unconscious person. Have conscious and alert person drink 1 to 2 glasses of water.

IN EVENT OF EXPOSURE, CONSULT A PHYSICIAN

NOTE TO PHYSICIAN: **Treat symptomatically and supportively.**

5. FIRE FIGHTING MEASURES

FLASH POINT: -45 deg. C

AUTOIGNITION TEMPERATURE: 170 deg. C

FLAMMABLE LIMITS: Vol.% in Air

LOWER: 1.9
UPPER: 36

EXTINGUISHING MEDIA: Dry chemical, carbon dioxide, or alcohol foam.

SPECIAL FIRE FIGHTING INSTRUCTION AND EQUIPMENT: Wear self-contained breathing apparatus and full protective clothing. Keep fire exposed cylinders cool with water spray.

HAZARDOUS COMBUSTION PRODUCTS: Toxic carbon monoxide may be given off during combustion.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Extremely flammable. Cylinder rupture may occur under fire conditions. May form explosive mixture in air. Vapors may travel a considerable distance to the source of ignition and flash back. Vapor is denser than air and may collect in low-lying areas. Liquid can float on water

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and may travel to distant locations and/or spread fire.

6. ACCIDENTAL RELEASE MEASURES

CLEAN UP PROCEDURES: Evacuate and ventilate area. Use a self-contained breathing apparatus in case of emergency or non-routine use. Remove all sources of heat and ignition. Contain spills and prevent run off into sewers and waterways.

SPECIALIZED EQUIPMENT: Use non-sparking tools.

7. HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING: Secure cylinder when using to protect from falling. Use suitable hand truck to move cylinders. Use explosion proof ventilation, piping, and equipment. Eliminate all ignition sources. Use only in a well-ventilated area.

PRECAUTIONS TO BE TAKEN IN STORAGE: Store in well ventilated areas. Keep valve protection cap on cylinders when not in use. Store away from heat, flame, and sparks. Keep away from oxidizing agents. Ventilation equipment should be explosion proof. @07S29 @07S30

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS: Provide adequate general and local exhaust ventilation to maintain concentrations below exposure and flammable limits.

EYE / FACE PROTECTION: Goggles. A safety shower and eyewash station should be readily available.

SKIN PROTECTION: Protective gloves.

RESPIRATORY PROTECTION: Use a self-contained breathing apparatus in case of emergency or non-routine use.

OTHER PROTECTIVE EQUIPMENT: Safety shoes when handling cylinders.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Clear, Colorless

ODOR: Sweet odor. Pungent

PHYSICAL PRESSURE: Liquid

VAPOR PRESSURE: 440 mmHg @ 20 deg.C

VAPOR DENSITY (AIR=1): 2.55

BOILING POINT (C): 35

SOLUBILITY IN WATER: 6.9 g/100 ml @ 20 deg.C

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SPECIFIC GRAVITY (H₂O=1): 0.714 @ 20 deg.C

EVAPORATION RATE: (Butyl Acetate=1) 37.5

ODOR THRESHOLD: .1 ppm

10. STABILITY AND REACTIVITY

STABILITY: Unstable, it forms explosive peroxides with air and oxygen.

CONDITIONS TO AVOID: Contact with air.Exposure to light, moisture, and ignition sources.Contact with oxidizing materials, acids and water.Storage in poorly ventilated areas.

MATERIALS TO AVOID: Oxidizing agents, air and moisture.

HAZARDOUS POLYMERIZATION: Will not occur.

HAZARDOUS DECOMPOSITION: Carbon monoxide.Peroxides.

11. TOXICOLOGICAL INFORMATION

LETHAL CONCENTRATION (LC50): 21,917 ppm, Mouse 1 hour

LETHAL DOSE 50 (LD50): 1215 mg/kg, Rat

TERATOGENICITY: N/Av

REPRODUCTIVE EFFECTS: N/Av

MUTAGENICITY: N/Av

12. ECOLOGICAL INFORMATION

No adverse ecological effects are expected.

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Dispose of non-refillable cylinders in accordance with federal, state and local regulations. Allow gas to vent slowly to atmosphere in an unconfined area or exhaust hood. If the cylinders are the refillable type, return cylinders to supplier with any valve outlet plugs or caps secured and valve protection caps in place.

14. TRANSPORT INFORMATION

CONCENTRATION: 99+%

DOT DESCRIPTION (US ONLY):

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PROPER SHIPPING NAME: Diethyl Ether
HAZARD CLASS: 3 (flammable liquid)
IDENTIFICATION NUMBER: UN1155
REPORTABLE QUANTITIES: 100 lb.
LABELING: FLAMMABLE LIQUID

ADR / RID (EU Only): Class 3,2(a)

SPECIAL PRECAUTIONS: Cylinders should be transported in a secure upright position in a well ventilated truck.

15. REGULATORY INFORMATION

OSHA: Process Safety Management: Materials are not listed in appendix A of 29 CFR 1910.119 as highly hazardous chemicals.

TSCA: Material is listed in TSCA inventory.

SARA: The threshold planning quantity for material is 10,000 lbs.

EU NUMBER: 200-467-2

NUMBER IN ANNEX 1 OF DIR 67/548: Material is listed in annex 1.

EU CLASSIFICATION: N/Av

R: 12-19

S: 9-16-29-33

16. OTHER INFORMATION

OTHER PRECAUTIONS: Protect containers from physical damage. Do not deface cylinders or labels. Cylinders should be refilled by qualified producers of compressed gas. Shipment of a compressed gas cylinder which has not been filled by the owner or with his written consent is a violation of federal law (49 CFR).

ABBREVIATIONS: N/Av - Not Applicable N/Av - Not Available SA - Simple Asphyxiant NE - None Established

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