FLINN SCIENTIFIC INC.

"Your Safer Source for Science Supplies"

Material Safety Data Sheet (MSDS)

Section 1 — Chemical Product and Company Identification

1,4-Dioxane

Flinn Scientific, Inc. P.O. Box 219 Batavia, IL 60510 (800) 452-1261 CHEMTREC Emergency Phone Number: (800) 424-9300

Section 2 — Composition, Information on Ingredients

1,4-Dioxane Synonym: diethylene dioxide, diethylene ether

CAS#: 123-91-1

Section 3 — Hazards Identification

Colorless liquid; ethereal odor.

Slightly toxic by ingestion, inhalation and skin absorption. Avoid contact with all body tissues. Possible carcinogen. Flammable liquid. May form explosive peroxides on concentration.

Section 4 — First Aid Measures

Call a physician, seek medical attention for further treatment, observation and support after first aid. Inhalation: Remove to fresh air at once. If breathing has stopped give artificial respiration immediately.

Eye: Immediately flush with fresh water for 15 minutes.

External: Wash continuously with fresh water for 15 minutes.

Internal: Induce vomiting. Call a physician or poison control at once.

Section 5 — Fire Fighting MeasuresClass 1B Flammable liquid.NFPA CoDEWhen heated to decomposition, emits acrid smoke and irritating fumes.H-2Substance may develop peroxides; potential explosive.F-3Fire Fighting Instructions: Use triclass, dry chemical fire extinguisher. Firefighters should wear PPER-1and SCBA with full facepiece operated in positive pressure mode.Kentometric

Section 6 — Accidental Release Measures

Restrict unprotected personnel from area. Remove all ignition sources and ventilate area. Contain spill with sand and absorbent material; deposit in sealed bag or container. See Sections 8 and 13 for further information.

Section 7 — Handling and Storage

Flinn Suggested Chemical Storage Pattern: Organic #4. Store with ethers, ketones, halogenated hydrocarbons and ethylene oxide. Store in a dedicated flammables cabinet. If a flammables cabinet is not available, store in Flinn Saf-Stor Can. Store in a cool dry place. Use and dispense in a hood.

Section 8 — Exposure Controls, Personal Protection

Avoid contact with eyes, skin and clothing. Wear chemical splash goggles, chemical-resistant gloves and chemical-resistant apron. Use ventilation to keep airborne concentrations below exposure limits. Always wear a NIOSH-approved respirator with proper cartridges or a positive pressure, air-supplied respirator when handling this material in emergency situations (spill or fire). Exposure guidelines: TWA 100 ppm (OSHA)

FLINN AT-A-GLANCE Health-3 Flammability-3 Reactivity-2 Exposure-3 Storage-3

0 is low hazard, 3 is high hazard

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MSDS #: 309.00 Revision Date: March 14, 2001

Section 9 — Physical and Chemical Properties

Colorless liquid; ethereal odor. Solubility: Miscible with water and most organic solvents. Formula: C4H8O2 Formula Weight: 88.11

Section 10 — Stability and Reactivity

This material developes explosive peroxides with age. Avoid contact with strong oxidizers, decaborane, triethynyl aluminum and SO3. Shelf life: Poor.

Section 11 — Toxicological Information

Acute effects: Irritant, nausea, dizziness and headache Chronic effects: Possible carcinogen, mutagen Target organs: Liver, kidneys, central nervous system

ORL-RAT LD50: 5700 mg/kg IHL-RAT LC50: 46 gm/m3/2H SKN-RBT LD50: 7600 mg/kg

N.A. = Not available, not all health aspects of this substance have been fully investigated.

Section 12 — Ecological Information

Data not yet available.

Section 13 — Disposal Considerations

Please consult with state and local regulations. Flinn Suggested Disposal Method #15 is one option.

Section 14 — Transport Information

Shipping Name: Dioxane Hazard Class: 3, Flammable liquid UN Number: UN1165

N/A = Not applicable

Section 15 — Regulatory Information

TSCA-listed, EINECS-listed (204-661-8), RCRA code U108.

Section 16 — Other Information

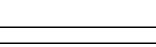
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Improve Safety--Use Flinn Chemicals

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1,4-Dioxane

Specific Gravity: 1.0356