

# FLINN SCIENTIFIC INC.

"Your Safer Source for Science Supplies"

## Material Safety Data Sheet (MSDS)

MSDS #: 309.00

Revision Date: March 14, 2001

---

### 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.

#### FLINN AT-A-GLANCE

Health-3

Flammability-3

Reactivity-2

Exposure-3

Storage-3

0 is low hazard, 3 is high hazard

---

### 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 Measures

---

Class 1B Flammable liquid.

When heated to decomposition, emits acrid smoke and irritating fumes.

Substance may develop peroxides; potential explosive.

**Fire Fighting Instructions:** Use triclass, dry chemical fire extinguisher. Firefighters should wear PPE and SCBA with full facepiece operated in positive pressure mode.

#### NFPA CODE

H-2

F-3

R-1

---

### 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)

### Section 9 — Physical and Chemical Properties

Colorless liquid; ethereal odor.

Specific Gravity: 1.0356

Solubility: Miscible with water and most organic solvents.

Formula: C<sub>4</sub>H<sub>8</sub>O<sub>2</sub>

Formula Weight: 88.11

### Section 10 — Stability and Reactivity

This material develops explosive peroxides with age.

Avoid contact with strong oxidizers, decaborane, triethynyl aluminum and SO<sub>3</sub>.

Shelf life: Poor.

### Section 11 — Toxicological Information

Acute effects: Irritant, nausea, dizziness and headache

ORL-RAT LD50: 5700 mg/kg

Chronic effects: Possible carcinogen, mutagen

IHL-RAT LC50: 46 gm/m<sup>3</sup>/2H

Target organs: Liver, kidneys, central nervous system

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

Consult your copy of the Flinn Scientific Catalog/Reference Manual for additional information about laboratory chemicals.

This Material Safety Data Sheet (MSDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. Flinn Scientific Inc. assumes no legal responsibility for use or reliance upon this data.

**FLINN SCIENTIFIC INC.**

"Your Safer Source for Science Supplies"

*Improve Safety--Use Flinn Chemicals*

flinn@flinnsci.com www.flinnsci.com  
P.O. Box 219 Batavia IL 60510  
(800) 452-1261 Fax (866) 452-1436