

# FLINN SCIENTIFIC, INC.

## Material Safety Data Sheet (MSDS)

MSDS #: 309.00

Revision Date: February 2, 2012

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### SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

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#### 1,4-Dioxane

Flinn Scientific, Inc. P.O. Box 219 Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

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### SECTION 2 — COMPOSITION, INFORMATION ON INGREDIENTS

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1,4-Dioxane

Synonyms: Diethylene dioxide, Diethylene ether

CAS#: 123-91-1

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### SECTION 3 — HAZARDS IDENTIFICATION

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Colorless liquid. Ether-like odor.

Possible human carcinogen (IARC-2B).

Slightly toxic by ingestion, inhalation, and skin absorption. Avoid contact with all body tissues.

Flammable liquid. May form explosive peroxides on concentration.

#### FLINN AT-A-GLANCE

Health-1

Flammability-3

Reactivity-2

Exposure-3

Storage-3

0 is low hazard, 3 is high hazard

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### SECTION 4 — FIRST AID MEASURES

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Call a physician and 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 or External: Immediately flush with fresh water for at least 15 minutes.

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

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### SECTION 5 — FIRE FIGHTING MEASURES

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Class IB flammable liquid.

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

Substance may develop peroxides; potential explosive.

**Fire Fighting Instructions:** Use a 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

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### SECTION 6 — ACCIDENTAL RELEASE MEASURES

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

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### SECTION 7 — HANDLING AND STORAGE

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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.

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### SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

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Avoid contact with eyes, skin, and clothing. Wear chemical splash goggles, chemical-resistant gloves, and a 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)

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**SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES**

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Colorless liquid with an 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

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**SECTION 10 — STABILITY AND REACTIVITY**

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This material develops explosive peroxides with age.

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

Shelf life: Poor.

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**SECTION 11 — TOXICOLOGICAL INFORMATION**

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Acute effects: Irritant, nausea, dizziness, headache.

ORL-RAT LD<sub>50</sub>: 4200 mg/kg

Chronic effects: Possible carcinogen, mutagen.

IHL-RAT LC<sub>50</sub>: 46 g/m<sup>3</sup>/2H

Target organs: Liver, kidneys, central nervous system.

SKN-RBT LD<sub>50</sub>: 7600 mg/kg

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

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**SECTION 12 — ECOLOGICAL INFORMATION**

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Data not yet available.

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**SECTION 13 — DISPOSAL CONSIDERATIONS**

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Please review all federal, state and local regulations that may apply, before proceeding.

Flinn Suggested Disposal Method #15 is one option.

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**SECTION 14 — TRANSPORT INFORMATION**

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Shipping name: Dioxane

Hazard class: 3, Flammable liquid

UN number: UN1165

N/A = Not applicable

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**SECTION 15 — REGULATORY INFORMATION**

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

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**SECTION 16 — OTHER INFORMATION**

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