

# FLINN SCIENTIFIC, INC.

## Safety Data Sheet (SDS)

SDS #: 309.00

Revision Date: December 13, 2013

### 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

Signal Word **DANGER**

Pictograms

### SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Flammable liquids (Category 2). Highly flammable liquid and vapor (H225). Keep away from heat, sparks, open flames, and hot surfaces (P210).

Hazard class: Acute toxicity, oral (Category 5) and inhalation (Category 5). May be harmful if swallowed or inhaled (H303+333).

Hazard class: Serious eye damage or irritation (Category 2A). Causes serious eye irritation (H319).

Hazard class: Specific target organ toxicity, single exposure; Respiratory tract irritation (Category 3). May cause respiratory irritation (H335). Avoid breathing vapors, mist or spray (P261).

Hazard class: Carcinogenicity (Category 2). Suspected of causing cancer (H351). Obtain special instructions before use (P201). Do not handle until all safety precautions have been read and understood (P202). Use personal protective equipment as required (P281). Possible human carcinogen (IARC-2B).



### SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
1,4-Dioxane	123-91-1	C <sub>4</sub> H <sub>8</sub> O <sub>2</sub>	88.10	

Synonyms: Diethylene dioxide, Diethylene ether

### SECTION 4 — FIRST AID MEASURES

**If exposed or concerned:** Get medical advice or attention (P308+P313).

**If inhaled:** Remove victim to fresh air and keep at rest in a position comfortable for breathing (P304+P340).

**If in eyes:** Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing (P305+P351+P338). **If eye irritation persists:** Get medical advice or attention (P337+P313).

**If on skin:** Immediately remove all contaminated clothing. Rinse skin with water (P303+P361+P353).

**If swallowed:** Rinse mouth. Call a POISON CENTER or physician if you feel unwell.

### SECTION 5 — FIRE FIGHTING MEASURES

Class IB flammable liquid.

Flash point: 12 °C Flammable limits: Lower: 2.0% Upper: 22% Autoignition Temperature: 180 °C

When heated to decomposition, may emit toxic fumes.

Substance may develop peroxides; potential explosive.

**In case of fire:** Use a tri-class dry chemical fire extinguisher.

NFPA CODE

H-2

F-3

R-1

### SECTION 6 — ACCIDENTAL RELEASE MEASURES

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. Keep container tightly closed (P233). Keep cool (P235). Use only in a hood or in a well-ventilated area (P271). Take precautionary measures against static discharge (P243).

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**SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION**

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Wear protective gloves, protective clothing, and eye protection (P280). Wash thoroughly after handling (P264). Use only in a hood or in a well-ventilated area (P271).

Exposure guidelines: PEL 100 ppm (OSHA), 20 ppm (ACGIH) Readily absorbed through the skin.

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**SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES**

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Colorless liquid. Ethereal odor.

Specific gravity: 1.0356

Soluble: Miscible with water and most organic solvents.

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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. See Section 7 for further information.

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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.