

# FLINN SCIENTIFIC, INC.

## Material Safety Data Sheet (MSDS)

MSDS #: 360.00

Revision Date: July 12, 2010

### SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

#### Fumaric Acid

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

Fumaric acid

Synonym: Butenedioic acid

CAS#: 110-17-8

### SECTION 3 — HAZARDS IDENTIFICATION

White crystals. Odorless.

A skin and eye irritant. Avoid all body contact.

#### FLINN AT-A-GLANCE

Health-0

Flammability-1

Reactivity-0

Exposure-1

Storage-0

0 is low hazard, 3 is high hazard

### SECTION 4 — FIRST AID MEASURES

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: Immediately flush with fresh water for at least 15 minutes.

External: Wash continuously with fresh water for at least 15 minutes.

Internal: Give large quantities of water. Call a physician or poison control at once.

### SECTION 5 — FIRE FIGHTING MEASURES

Combustible solid.

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

**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

None

established

### SECTION 6 — ACCIDENTAL RELEASE MEASURES

Restrict unprotected personnel from the area. Sweep up the spill, place in a sealed bag or container, and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

### SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Organic #1. Store with acids, anhydrides, and peracids.

Store in a cool, dry place.

### SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

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

---

**SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES**

---

White crystals. Odorless.

Solubility: Soluble in alcohol and water.

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

Formula Weight: 116.08

Specific Gravity: 1.635

Melting Point: 287 °C (sealed tube)

Boiling Point: 290 °F

---

**SECTION 10 — STABILITY AND REACTIVITY**

---

Avoid contact with bases, oxidizers, reducers, and amines.

Shelf life: Indefinite.

---

**SECTION 11 — TOXICOLOGICAL INFORMATION**

---

Acute effects: Eye irritant.

Chronic effects: N.A.

Target organs: N.A.

ORL-RAT LD<sub>50</sub>: 9300 mg/kgIHL-RAT LC<sub>50</sub>: N.A.SKN-RBT LD<sub>50</sub>: N.A.

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 #24a is one option.

---

**SECTION 14 — TRANSPORT INFORMATION**

---

Shipping Name: Not regulated

Hazard Class: N/A

UN Number: N/A

N/A = Not applicable

---

**SECTION 15 — REGULATORY INFORMATION**

---

TSCA-listed, EINECS-listed (203-743-0).

---

**SECTION 16 — OTHER INFORMATION**

---

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. The data should not be confused with local, state, federal or insurance mandates, regulations, or requirements and CONSTITUTE NO WARRANTY. Any use of this data and information must be determined by the science instructor to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond the control of Flinn Scientific, Inc. and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).

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