

# FLINN SCIENTIFIC, INC.

## Material Safety Data Sheet (MSDS)

MSDS #: 395.30

Revision Date: February 24, 2012

---

### SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

---

#### Hydrochloric Acid Solution (0.5 M - 3 M)

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

---

Hydrochloric acid (7647-01-0) 2-10% and Water (7732-18-5) 90-98%.

Concentration: 0.5 M-3 M

CAS#: None established

---

### SECTION 3 — HAZARDS IDENTIFICATION

---

Clear acidic, aqueous solution. Pungent chlorine odor.

Toxic by inhalation and ingestion. Severe body tissue irritant. Corrosive to eyes.

Avoid all body contact.

#### FLINN AT-A-GLANCE

Health-1

Flammability-0

Reactivity-1

Exposure-2

Storage-2

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

Internal: Do NOT induce vomiting. Rinse mouth. Give large quantities of water for dilution, followed by a gastric antacid, such as milk of magnesia. Call a physician or poison control at once.

---

### SECTION 5 — FIRE FIGHTING MEASURES

---

Nonflammable liquid.

**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. Ventilate area and contain the spill with sand or other inert absorbent material, neutralize with sodium bicarbonate or calcium hydroxide, and deposit in a sealed bag or container. See Sections 8 and 13 for further information.

---

### SECTION 7 — HANDLING AND STORAGE

---

Flinn Suggested Chemical Storage Pattern: Inorganic #9. Store with inorganic acids.

Store in a dedicated acid cabinet; if an acid cabinet is not available, store in Flinn Saf-Cube. Use and dispense in a hood or well-ventilated lab only.

---

### 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: Ceiling 5 ppm (as concentrated HCl) (OSHA)

---

**SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES**

---

Clear liquid with a pungent odor.

pH: &lt; 1

Solubility: Soluble in water and alcohol.

Formula: HCl

Formula weight: 36.46

---

**SECTION 10 — STABILITY AND REACTIVITY**

---

Avoid contact with strong oxidizers, bases, amines, and alkali metals. Corrodes metal including stainless steel.

Shelf life: Good, if stored properly.

---

**SECTION 11 — TOXICOLOGICAL INFORMATION**

---

Acute effects: Corrosive.

ORL-RBT LD<sub>50</sub>: 900 mg/kg as hydrochloric acid

Chronic effects: Corrosive to teeth.

IHL-RAT LC<sub>50</sub>: 3124 ppm/1hour as hydrochloric acid

Target organs: Respiratory tract, teeth, skin.

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**

---

Does not biodegrade in soil, may be toxic to aquatic life.

---

**SECTION 13 — DISPOSAL CONSIDERATIONS**

---

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

Flinn Suggested Disposal Method #24b is one option.

---

**SECTION 14 — TRANSPORT INFORMATION**

---

Shipping name: Hydrochloric acid

Hazard class: 8, Corrosive

UN number: UN1789

N/A = Not applicable

---

**SECTION 15 — REGULATORY INFORMATION**

---

TSCA-listed, EINECS-listed (231-595-7), RCRA code D002.

---

**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.**