

**FLINN SCIENTIFIC, INC.**  
**Material Safety Data Sheet (MSDS)**

MSDS #: 395.30

Revision Date: July 13, 2011

**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%.  
Synonym: 0.5 M-3 M hydrochloric acid  
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)

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**SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES**

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Clear liquid with a pungent odor. pH: < 1  
Solubility: Soluble in water and alcohol.  
Formula: HCl  
Formula weight: 36.46

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**SECTION 10 — STABILITY AND REACTIVITY**

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Avoid contact with strong oxidizers, bases, amines, and alkali metals. Corrodes metal including stainless steel.  
Shelf life: Good, if stored properly.

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**SECTION 11 — TOXICOLOGICAL INFORMATION**

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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.

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**SECTION 12 — ECOLOGICAL INFORMATION**

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

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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 #24b is one option.

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**SECTION 14 — TRANSPORT INFORMATION**

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Shipping name: Hydrochloric acid  
Hazard class: 8, Corrosive  
UN number: UN1789  
N/A = Not applicable

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**SECTION 15 — REGULATORY INFORMATION**

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

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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.**