

# FLINN SCIENTIFIC, INC.

## Material Safety Data Sheet (MSDS)

MSDS #: 395.10

Revision Date: February 24, 2012

### SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

#### Hydrochloric Acid Solution (3 M - 6 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) 10-30% and Water (7732-18-5) 70-90%

Synonym: 3 M-6 M Hydrochloric acid

CAS#: None established

### SECTION 3 — HAZARDS IDENTIFICATION

Clear acidic solution. Pungent chlorine odor.

Toxic by inhalation and ingestion.

Severely corrosive to all body tissues, especially skin and eyes. Avoid all body contact.

#### FLINN AT-A-GLANCE

Health-2

Flammability-0

Reactivity-2

Exposure-3

Storage-3

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.

When heated to decomposition, emits toxic fumes of HCl and Cl<sub>2</sub> or explosive H<sub>2</sub> gas.

**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. Remove all ignition sources and ventilate area. 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 and away from any source of water; if an acid cabinet is not available, store in Flinn Saf-Cube.

Use and dispense in a hood or in a 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 fuming 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, metals, metal oxides, hydroxides, amines, and other alkaline materials. Incompatible with cyanides, sulfides, and formaldehyde. Corrodes metal, including steel. Produces heat and may splatter violently when diluted with water.  
Shelf life: Good, if stored properly.

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**SECTION 11 — TOXICOLOGICAL INFORMATION**

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Acute effects: Poison, 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.**