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Hydrochloric Acid Solution 2.5 M - 5.9 M Safety Data Sheet (SDS)

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Hydrochloric Acid Solution 2.5 M - 5.9 M

Signal Word  
DANGER

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261  
Chemtrec Emergency Phone Number: (800) 424-9848

Pictograms

SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Skin and eye corrosion or irritation (Category 1). Causes severe skin and eye burns and damage (H314+H318). Do not breathe mist, vapors or spray (P260).



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



Hazard class: Acute toxicity, oral (Category 4). Harmful if swallowed (H302). Do not eat, drink or smoke when using this product (P270).

Hazard class: Corrosive to metals (Category 1). May be corrosive to metals (H290).

Industrial exposure to hydrochloric acid vapors and mists is listed as a known human carcinogen by IARC (IARC-1).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Hydrochloric acid	7647-01-0	HCl	36.46	7.5-20%
Water	7732-18-5	H <sub>2</sub> O	18.00	80-92.5%

SECTION 4 — FIRST AID MEASURES

Immediately call a POISON CENTER or physician (P310).  
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 so. Continue rinsing (P305+P351+P338).  
If on skin or hair: Immediately remove all contaminated clothing. Rinse skin with water (P303+P361+P353). Wash contaminated clothing before reuse (P363). If swallowed: Rinse mouth. Do NOT induce vomiting (P301+P330+P331).

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable, noncombustible solution.  
In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA Code  
None established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

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. Absorb spills to prevent material damage (P390). See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #9. Store with acids, except nitric acid.  
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™. Keep only in original container (P234). Keep container tightly closed (P233). Use only in a hood or well-ventilated area (P271).

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling (P264). Use only in a hood or well-ventilated area (P271).  
Exposure guidelines: (as concentrated HCl) Ceiling 5 ppm (OSHA); Ceiling 2 ppm (ACGIH); IDLH 50 ppm. Irritation threshold is ~ 5 ppm so any irritation is sign of exposure (per OSHA)

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Colorless to pale yellow liquid. Pungent odor.  
Soluble: Water and alcohol

pH: < 1

SECTION 10 — STABILITY AND REACTIVITY

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. See Section 7 for further information.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Eye and skin corrosion. Respiratory irritation, coughing.  
Chronic effects: Corrosive to teeth.  
Target organs: Respiratory tract, teeth, skin, eyes.

ORL-RBT LD<sub>50</sub>: 900 mg/kg (as concentrated HCl)  
IHL-RAT LC<sub>50</sub>: 3124 ppm/1hour (as concentrated HCl)  
SKN-RBT LD<sub>50</sub>: N.A.

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.

SECTION 15 — REGULATORY INFORMATION

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

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SECTION 16 — OTHER INFORMATION

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N.A. = Not available, not all health aspects of this substance have been fully investigated.

N/A = Not applicable

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

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