



Material Safety Data Sheet

1. Product and Company Identification

Product name : **Hydrogen Chloride**

Chemical formula : HCl

Synonyms : Hydrochloric acid; Anhydrous hydrochloric acid; HCl

Company : Specialty Gases of America, Inc
6055 Brent Dr.
Toledo, OH 43611

Telephone : 419-729-7732

Emergency : 800-424-9300

2. Composition/Information on Ingredients

Components	CAS Number	% Volume
Hydrogen Chloride	7647-01-0	99+%

3. Hazards Identification

Emergency Overview

Poisonous, corrosive high pressure liquid and gas.
May cause liver damage.
Can cause eye, skin, and respiratory tract burns.

Potential Health Effects

Inhalation : Inhalation of vapors may cause pulmonary edema, circulatory collapse, damage to upper respiratory tract, coughing, difficulty breathing and choking. It is severely irritating and corrosive to the eyes, mucous membranes, and upper respiratory tract.

Eye contact : Contact with liquid can cause severe burns to eyes.

Skin contact : Contact with liquid can cause severe burns to skin.

Ingestion : Not identified as primary route of entry.

Chronic Health Hazard : None known.

4. First Aid Measures

General advice : None.

Eye contact : Flush with large amounts of water lifting upper and lower lids.

Skin contact : Rinse the affected area with flooding amounts of water and then wash it with soap and water.

Ingestion : None.

Inhalation : Immediately remove victim to fresh air. If breathing is difficult, give oxygen. If breathing has stopped, give artificial respiration.

5. Fire-Fighting Measures

Suitable extinguishing media	:	Use what is appropriate for surrounding fire.
Specific hazards	:	May emit hydrogen gas upon contact with metal. Contact with water causes formation of dense hydrochloric acid fumes.
Special protective equipment for fire-fighters	:	Wear self contained breathing apparatus and full protective clothing. Remove cylinders or cool with water spray to prevent release of HCl. Special neutralization procedures, if applicable, include the application of chemically basic substances.

6. Accidental Release Measures

Personal precautions	:	None.
Environmental precautions	:	None.
Methods for cleaning up	:	Evacuate and ventilate area. Remove leaking cylinder to exhaust hood or safe outdoor area. Shut off source if possible and remove source of heat. Place waste into a clean, dry container for disposal.
Additional advice	:	Small leaks can be detected with concentrated NH ₄ OH by giving off white fumes. Neutralize spills with soda ash or lime.

7. Handling and Storage

Handling

Secure cylinder when using to protect from falling. Use suitable hand truck to move cylinders.

Storage

Store in well ventilated areas. Store away from heat, flame, and sparks. Keep valve protection cap on cylinders when not in use. No part of cylinder should be exposed to temperatures above 52 degrees Celsius.

8. Exposure Controls / Personal Protection

Engineering measures

Provide adequate general and local exhaust ventilation to maintain concentration below exposure limits.

Personal protective equipment

Respiratory protection	:	Use a self-contained breathing apparatus in case of leakage.
Hand protection	:	Impervious gloves.
Eye protection	:	Safety glasses. A safety shower and eyewash station should be readily available.
Skin and body protection	:	Coveralls, boots, and/or other resistant protective clothing. Safety shoes when handling cylinders.
Remarks	:	None.

9. Physical and Chemical Properties

Form	:	Liquefied gas.
Color	:	Colorless.
Odor	:	Suffocating pungent odor.
Vapor pressure	:	@ 20 deg. C: 42.71 atm
Vapor density	:	1.268 (Air = 1)
Boiling point (C)	:	-84.8

Water solubility : Complete.
Specific gravity : Gas (H₂O = 1)
Evaporation rate : Not available.

10. Stability and Reactivity

Stability : Stable under normal conditions.
Conditions to avoid : Storage in poorly ventilated areas. Combustibles especially oils and greases.
Materials to avoid : Corrosive to many metals when moisture is present releasing flammable hydrogen gas. Galvanized pipe, brass, copper, bronze, alkaline materials, cyanides, and sulfites. Reacts exothermic (heat producing) with many organic materials. Also reacts with fluorides, calcium carbide, rubidium carbide, and lithium silicide.
Hazardous decomposition products : HCl, hydrogen or chlorine gas.

11. Toxicological Information

Toxicity Data

Lethal concentration (LC₅₀): 3120 ppm, rat 1 hour.

Acute Health Hazard

Ingestion : Not available.
Inhalation : Not available.
Skin : Not available.

12. Ecological Information

No adverse ecological effects are expected.

13. Disposal Considerations

Waste from residues / unused products : Dispose of non-refillable cylinders in accordance with federal, state and local regulations. Allow gas to vent slowly to atmosphere in an unconfined area or exhaust hood. If the cylinders are refillable type, return cylinders to supplier with any valve outlet plugs or caps secured and valve protection caps in place. Can be neutralized with sodium hydroxide or other suitable alkali. Neutral salt solution can usually be flushed to the sewer with high dilution.
Contaminated packaging : Return cylinder to supplier.

14. Transport Information

DOT (US only)

Proper shipping name : Hydrogen chloride, anhydrous
Class : 2.3
UN/ID No. : UN1050
Labeling : Poison gas, Corrosive
Reportable quantities : 5000 lb

Further information

Cylinders should be transported in a secure upright position in a well ventilated truck.

15. Regulatory Information

OSHA Hazard Communication Standard (29 CFR 1910.1200) Hazard Class(es)

Material is not listed in appendix A of 29 CFR 1910.119 as highly hazardous chemical.

TCSA

Material is listed in TSCA inventory.

SARA

The threshold planning quantity for material is 500 lbs.

Number in Annex 1 of DIR 67/548

Not listed in annex 1.

16. Other Information

Prepared by : Specialty Gases of America, Inc.

For additional information, please visit our website at www.americangasgroup.com.