

**1. PRODUCT AND COMPANY IDENTIFICATION**

**Product Code:** 00010

**Product Name:** Hydrogen Chloride

**Company Name:** Gas Innovations  
18005 E. Hwy 225  
La Porte, TX 77571

**Phone Number:**  
+1 (281)471-2200

**Web site address:** www.gasinnovations.com

**Emergency Contact:** 3E (within United States) +1 (866)303-2640

**Information:** Infotrac (outside of United States) +1 (352)323-3500

**Synonyms:** HYDROCHLORIC ACID, ANHYDROUS; HYDROGEN CHLORIDE; SPIRITS OF SALT; MURIATIC ACID; HYDROCHLORIC ACID; HYDROCHLORIC ACID GAS; ANHYDROUS HYDROCHLORIC ACID; HYDROGEN CHLORIDE (HCl); UN 1050.

**2. HAZARDS IDENTIFICATION**

Gas Under Pressure, Compressed gas

Acute Toxicity: Inhalation, Category 3

Skin Corrosion/Irritation, Category 1A



**GHS Signal Word:** **Danger**

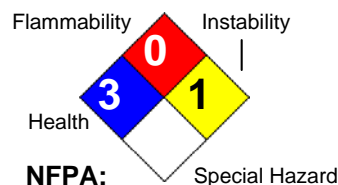
**GHS Hazard Phrases:** H280 - Containers gas under pressure; may explode if heated.  
H314 - Causes severe skin burns and eye damage.  
H331 - Toxic if inhaled.

**GHS Precaution Phrases:** P260 - Do not breathe dust/fume/gas/mist/vapors/spray.  
P264 - Wash hands thoroughly after handling.  
P271 - Use only outdoors or in a well-ventilated area.  
P280 - Wear protective gloves/protective clothing/eye protection/face protection.

**GHS Response Phrases:** P301+330+331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
P303+361+353 - IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower. P363 - Wash contaminated clothing before reuse.  
P304+340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
P305+351+338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P310 - Immediately call a POISON CENTER or doctor/physician.  
P321 - Specific treatment see Section 4 reference to supplemental first aid instruction - if immediate measures are required.

**GHS Storage and Disposal Phrases:** P403+233 - Store container tightly closed in well-ventilated place.  
P410+403 - Protect from sunlight and store in well-ventilated place.  
P501 - Dispose of contents/containers in accordance with local/regional/national/international regulations.

## Hazard Rating System:

Potential Health Effects  
(Acute and Chronic):

<b>Inhalation:</b>	Toxic if inhaled. May cause respiratory tract irritation. May cause respiratory tract burns.
<b>Skin Contact:</b>	May cause skin irritation. May cause severe burns to the skin.
<b>Eye Contact:</b>	May cause burns to the eyes. May cause eye damage.
<b>Ingestion:</b>	May cause burns of the mucous membranes in the mouth, throat, esophagus, and stomach.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS #	Hazardous Components (Chemical Name)	Concentration
7647-01-0	Hydrogen chloride	100 %

## 4. FIRST AID MEASURES

<b>Emergency and First Aid Procedures:</b>	Consult a physician. Show this safety data sheet to the doctor in attendance.
<b>In Case of Inhalation:</b>	If breathed in, move person into fresh air. If not breathing give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen. Get immediate medical advice/attention.
<b>In Case of Skin Contact:</b>	Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get immediate medical advice/attention. Wash contaminated clothing before reuse. Destroy contaminated shoes.
<b>In Case of Eye Contact:</b>	Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Remove contact lenses, if present and easy to do after 5 minutes and continue rinsing for an additional 15 minutes. Get medical attention immediately.
<b>In Case of Ingestion:</b>	Call a POISON CENTER or doctor/physician immediately. Never make an unconscious person vomit or drink fluids. Give large amounts of water or milk. Allow vomiting to occur. When vomiting occurs, keep head lower than hips to help prevent aspiration. If person is unconscious, turn head to side. Get immediate medical advice/attention.
<b>Note to Physician:</b>	For inhalation, consider oxygen. Avoid gastric lavage or emesis.

## 5. FIRE FIGHTING MEASURES

<b>Flash Pt:</b>	NA	Method Used:	Not Applicable
<b>Explosive Limits:</b>	LEL: No data.	UEL:	No data.
<b>Autoignition Pt:</b>	NA		
<b>Suitable Extinguishing Media:</b>	Dry chemical or CO <sub>2</sub> . For larger fires use regular foam or flood with fine water spray.		
<b>Fire Fighting Instructions:</b>	Negligible fire hazard. Keep unnecessary people away, isolate hazard area and deny entry. Container may rupture or explode if exposed to heat. Do NOT get water inside of containers. Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks.		
<b>Flammable Properties and Hazards:</b>	High temperatures and fire conditions can result in the formation of carbon monoxide and carbon dioxide, chlorine gases.		

## 6. ACCIDENTAL RELEASE MEASURES

**Protective Precautions,  
Protective Equipment and  
Emergency Procedures:**

Use proper personal protective equipment as indicated in Section 8.

**Environmental Precautions:**

Do not let product enter drains, sewers, watersheds or water systems.

**Steps To Be Taken In Case  
Material Is Released Or  
Spilled:**

Air Release: Reduce vapors with water spray. Stay upwind. Keep out of low areas.  
Collect runoff for disposal as potential hazardous waste.

Soil Release: Dig holding area such as a lagoon, pond or pit for containment. Dike for later disposal. Absorb with earth, sand or other non-combustible material. Add an alkaline material (lime, crushed limestone, sodium bicarbonate, or soda ash).

Water Release: Add an alkaline material (lime, crushed limestone, sodium bicarbonate, or soda ash).

Occupational Release: Stop leak if you can do it without risk. Reduce vapors with water spray. Do not get water directly on material. Do not get water inside containers. Keep unnecessary people away, isolate hazard area and deny entry.

Small Spills: Flood with water.

Large Spills: Dike for later disposal. Stay upwind. Keep out of low areas. Ventilate closed spaces before entering. Evacuation radius: 150 feet. Notify Local Emergency Planning Committee and State Emergency Response Commission for release greater than or equal to RQ. If release occurs in the U.S. and is reportable under CERCLA Section 103, notify the National Response Center at (800) 424-8802 or (202) 426-2675 (USA).

## 7. HANDLING AND STORAGE

**Precautions To Be Taken in  
Handling:**

Subject to handling regulations: U.S. OSHA 29 CFR 1910.119.

**Precautions To Be Taken in  
Storing:**

Cylinders should be stored and used in dry, well-ventilated areas away from sources of heat or ignition. Store away from incompatible material. Protect containers against damage.

**Other Precautions:**

Store and handle in accordance with all current regulations and standards. Subject to storage regulations: U.S. OSHA 29 CFR 1910.101. Notify State Emergency Response Commission for storage or use at amounts greater than or equal to the TPQ (U.S. EPA SARA Section 302). SARA Section 303 requires facilities storing a material with a TPQ to participate in local emergency response planning (U.S. EPA 40 CFR 355.30).

When handling product under pressure, use piping and equipment adequately designed to withstand the pressures to be encountered. Never work on a pressurized system. Use a back flow preventive device in the piping. Gases can cause rapid suffocation because of oxygen deficiency; store and use with adequate ventilation. If a leak occurs, close the container valve and blow down the system in a safe and environmentally correct manner in compliance with all international, federal/national, state/provincial, and local laws; then repair the leak. Never place a container where it may become part of an electrical circuit.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

CAS #	Partial Chemical Name	OSHA TWA	ACGIH TWA	Other Limits
7647-01-0	Hydrogen chloride	CEIL: 5 ppm	CEIL: 2 ppm	No data.
<b>Respiratory Equipment (Specify Type):</b>	<p>Any air-purifying half-mask respirator equipped with cartridge(s) providing protection against the compound of concern.</p> <p>Any air-purifying full-facepiece respirator (gas mask) with a chin-style, front-mounted or back-mounted canister providing protection against the compound of concern.</p> <p>Any powered, air-purifying respirator with cartridge(s) providing protection against this substance.</p> <p>Any supplied-air respirator.</p> <p>Any self-contained breathing apparatus with a full-facepiece.</p> <p>Emergency or planned entry into unknown concentrations or IDLH conditions.</p> <p>Any self-contained breathing apparatus that has a full-facepiece and is operated in a pressure-demand or other positive-pressure mode.</p> <p>Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode.</p> <p>Escape:</p> <p>Any air-purifying full-facepiece respirator (gas mask) with a chin-style, front-mounted or back-mounted canister providing protection against the compound of concern.</p> <p>Any appropriate escape-type, self-contained breathing apparatus.</p> <p>Under conditions of frequent use or heavy exposure, respiratory protection may be needed.</p> <p>Respiratory protection is ranked in order from minimum to maximum.</p> <p>Consider warning properties before use.</p> <p>For Unknown Concentrations or Immediately Dangerous to Life or Health.</p> <p>Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply.</p> <p>Any self-contained breathing apparatus with a full facepiece.</p>			
<b>Eye Protection:</b>	Wear safety glasses when handling cylinders; vapor-proof goggles and a face shield during cylinder change out or whenever contact with product is possible. Select eye protection in accordance with OSHA 29 CFR 1910.133.			
<b>Protective Gloves:</b>	Wear appropriate protective gloves to prevent skin exposure. Chemical resistant gloves.			
<b>Other Protective Clothing:</b>	Wear appropriate protective clothing to prevent skin exposure. Chemical resistant apron. Chemical resistant boots.			
<b>Engineering Controls (Ventilation etc.):</b>	Local exhaust or process enclosure ventilation system. Ensure compliance with applicable exposure limits. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.			
<b>Work/Hygienic/Maintenance Practices:</b>	Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.			
<b>Environmental Exposure Controls:</b>	Do not let product enter drains.			

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical States:</b>	[ X ] Gas [ ] Liquid [ ] Solid
<b>Appearance and Odor:</b>	Appearance: colorless. Odor: irritating odor.
	Odor Threshold: 1 - 5 ppm.
<b>Freezing Point:</b>	-175 F (-115 C)
<b>Boiling Point:</b>	-121 F (-85.0 C)
<b>Autoignition Pt:</b>	NA
<b>Flash Pt:</b>	NA Method Used: Not Applicable
<b>Explosive Limits:</b>	LEL: No data. UEL: No data.
<b>Specific Gravity (Water = 1):</b>	1.187 at -85.0 C (-121 F)
<b>Density:</b>	NA
<b>Bulk density:</b>	NA
<b>Vapor Pressure (vs. Air or mm Hg):</b>	30400 MM_HG at 17.8 C (64.0 F)
<b>Vapor Density (vs. Air = 1):</b>	1.268 AIR=1
<b>Evaporation Rate:</b>	NA
<b>Solubility in Water:</b>	82.3% at 0 C (32.0 F)
<b>Solubility Notes:</b>	Soluble: alcohol, ether, benzene, methanol.
<b>Saturated Vapor Concentration:</b>	NA
<b>Viscosity:</b>	NA
<b>Octanol/Water Partition Coefficient:</b>	NA
<b>pH:</b>	acidic in solution
<b>Percent Volatile:</b>	NA
<b>VOC / Volume:</b>	NA
<b>Particle Size:</b>	NA
<b>Heat Value:</b>	NA
<b>Corrosion Rate:</b>	NA
<b>Molecular Formula &amp; Weight:</b>	H-Cl 36.46

## 10. STABILITY AND REACTIVITY

<b>Reactivity:</b>	High temperatures and fire conditions can result in the formation of carbon monoxide and carbon dioxide, chlorine gases.
<b>Stability:</b>	Unstable [ ] Stable [ X ]
<b>Conditions To Avoid - Instability:</b>	Heat, flames and sparks. No smoking. Minimize contact with material. Avoid inhalation of material or combustion by-products. Container may rupture or explode if exposed to heat.
<b>Incompatibility - Materials To Avoid:</b>	Metals. Cyanides, amines, Bases, metal carbides, Oxidizing materials, Acids, Halo carbons, combustible materials, Halogens, metal salts.
<b>Hazardous Decomposition Or Byproducts:</b>	High temperatures and fire conditions can result in the formation of carbon monoxide and carbon dioxide, chlorine gases.
<b>Possibility of Hazardous Reactions:</b>	Will occur [ ] Will not occur [ X ]
<b>Conditions To Avoid - Hazardous Reactions:</b>	No data available.

**11. TOXICOLOGICAL INFORMATION**

<b>Toxicological Information:</b>	Epidemiology: No information available. Teratogenicity: No information available. Reproductive Effects: No information available. Mutagenicity: No information available. Neurotoxicity: No information available.
	Other Studies: CAS# 7647-01-0: Acute toxicity, LD50, Oral, Rabbit, 900 mg/kg Acute toxicity, LC50, Inhalation, Rat, 3124 ppm, 1 H.
<b>Irritation or Corrosion:</b>	Moderate irritation effect.
<b>Sensitization:</b>	No data available.
<b>Carcinogenicity:</b>	NTP? No      IARC Monographs? No      OSHA Regulated? No

**12. ECOLOGICAL INFORMATION**

<b>General Ecological Information:</b>	Environmental: No information available. Physical: No information available.
<b>Results of PBT and vPvB assessment:</b>	Other Studies: CAS# 7647-01-0: LC50, Western Mosquitofish (Gambusia affinis), adult(s), 282000 ug/L, 24H, Mortality LC50, Common Shrimp, Sand Shrimp (Crangon crangon), adult(s), 260000 ug/L, 48H, Mortality.

**13. DISPOSAL CONSIDERATIONS**

<b>Waste Disposal Method:</b>	Dispose of contents/containers in accordance with local/regional/national/international regulations. Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): D002.
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**14. TRANSPORT INFORMATION****LAND TRANSPORT (US DOT):**

**DOT Proper Shipping Name:** Hydrogen chloride, anhydrous.  
**DOT Hazard Class:** 2.3                      POISON GAS  
**UN/NA Number:** UN1050

**LAND TRANSPORT (Canadian TDG):**

**TDG Shipping Name:** Hydrogen chloride, anhydrous.

**AIR TRANSPORT (ICAO/IATA):**

**ICAO/IATA Shipping Name:** Forbidden.  
Toxic-Inhalation Hazard Zone C.

**15. REGULATORY INFORMATION****EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists**

CAS #	Hazardous Components (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)
7647-01-0	Hydrogen chloride	Yes 500 LB	Yes 5000 LB	Yes

**CAS #**            **Hazardous Components (Chemical Name)**  
7647-01-0        Hydrogen chloride

**Other US EPA or State Lists**

TSCA: Yes - Inventory, 4 Test; CA PROP.65: No; CA TAC, Title 8: TAC, Title 8; MA Oil/HazMat: Yes; MI CMR, Part 5: Part 5; NC TAP: Yes; NJ EHS: Yes - 1012; NY Part 597: Yes; PA HSL: Yes - E; SC TAP: Yes; WI Air: Yes

**CAS #**            **Hazardous Components (Chemical Name)**  
7647-01-0        Hydrogen chloride

**International Regulatory Lists**

Canadian DSL: Yes; Canadian NDSL: No; Mexico INSQ: Yes; Australia ICS: Yes; New Zealand IOC: Yes; China IECSC: Yes; Japan ENCS: Yes - (1)-215; Korea ECL: Yes - KE-20189; Philippines ICCS: Yes; REACH: Yes - (R), (P)

## 16. OTHER INFORMATION

**Revision Date:**                    03/26/2015

**Additional Information About** No data available.

**This Product:**

**Company Policy or  
Disclaimer:**

The information, recommendations, and suggestions herein were compiled from reference material and other sources believed to be reliable. However, the SDS's accuracy or completeness is not guaranteed by Gas Innovations or its affiliates, nor is any responsibility assumed or implied for any loss or damage resulting from inaccuracies or omissions. Since conditions of use are beyond our control, no warranties of merchantability of fitness for a particular purpose are expressed or implied. This SDS is not intended as a license to operate under, or a recommendation to infringe on, any patents. Appropriate warnings and safe handling procedures should be provided to handlers and users.