
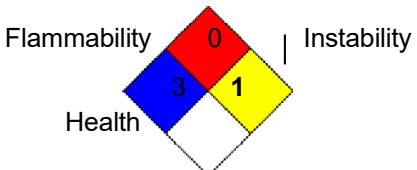


1. PRODUCT AND COMPANY IDENTIFICATION

Product Code:	
Product Name:	Hydrogen Chloride
Synonyms:	HYDROCHLORIC ACID, ANHYDROUS; HYDROGEN CHLORIDE; SPIRITS OF SALT; MURIATIC ACID; HYDROCHLORIC ACID; HYDROCHLORIC ACID GAS; ANHYDROUS HYDROCHLORIC ACID; HYDROGEN CHLORIDE (HCl); UN 1050.
Company Name:	Gas Innovations 18005 E. Hwy 225 La Porte, TX 77571
Web site address:	www.gasinnovations.com
Emergency Contact:	3E (within United States)
Information:	Infotrac (outside of United States)
Phone Number:	+1 (281)471-2200 +1 (866)303-2640 +1 (352)323-3500

2. HAZARDS IDENTIFICATION

Flammable Gases:	Category 1
Gas Under Pressure:	Liquified gas
Acute Toxicity: (Oral)	Category 3
Acute Toxicity: Inhalation	Category3
Serious Eye Damage	Category 1
Specific Target Organ Toxicity (single exposure)	Category 3
Symbol:	
GHS Signal Word:	Danger
GHS Hazard Phrases:	H280 - Containers gas under pressure; may explode if heated. H302 - Harmful if swallowed. H314 - Causes severe skin burns and eye damage.
GHS Precaution Phrases:	Do not handle until all safety precautions have been read and understood H331 - Toxic if inhaled. H335 - May Cause respiratory irritation. P260 - Do not breathe dust/fume/gas/mist/vapors/spray. P264 - Wash hands thoroughly after handling.
GHS Response Phrases:	P271 - Use only outdoors or in a well-ventilated area. P280 - Wear protective gloves/protective clothing/eye protection/face protection. 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.
GHS Storage and Disposal Phrases:	P321 - Specific treatment see Section 4 reference to supplemental first aid instruction - if immediate measures are required. 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:	 <p>Flammability 0 Instability 1 Health 3</p>
NFPA:	Special Hazard
Potential Health Effects (Acute and Chronic):	
Inhalation:	Toxic if inhaled. May cause respiratory tract irritation. May cause respiratory tract burns.
Skin Contact:	May cause skin irritation. May cause severe burns to the skin.
Eye Contact:	May cause burns to the eyes. May cause eye damage.
Ingestion:	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

Emergency and First Aid Procedures:	Consult a physician. Show this safety data sheet to the doctor in attendance.
In Case of Inhalation:	If breathed in, move a person into fresh air. If not breathing gives artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen. Get immediate medical advice/attention. To avoid possible chemical burns, the rescuer should avoid breathing any exhaled air from the victim
In Case of Skin Contact:	Wash skin with soap and lukewarm water (105-115°F; 41-46°C). for at least 15 minutes while removing contaminated clothing and shoes. Get immediate medical advice/attention. Wash contaminated clothing before reuse. Destroy contaminated shoes.
In Case of Eye Contact:	Flush your 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. Contact the ophthalmologist immediately.
In Case of Ingestion:	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 your head lower than hips to help prevent aspiration. If a person is unconscious, turn head to side. Get immediate medical advice/attention
Note to Physician:	For inhalation, consider oxygen. Avoid gastric lavage or emesis.

5. FIRE FIGHTING MEASURES

Flash Pt:	NA
Method Used:	Not Applicable
Explosive Limits:	Lower level: No Data Upper level: No Data
Autoignition Pt:	NA
Suitable Extinguishing Media:	Dry chemical or CO ₂ . For larger fires use regular foam or flood with fine water spray. Does not burn, use extinguishing agents compatible with acid and burning materials.
Fire Fighting Instructions:	Negligible fire hazard. Keep unnecessary people away, isolate hazard areas and deny entry. Containers 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. On-site fire brigades must comply with their provincial and local fire code regulations. For tank, rail car, or tank truck, evacuation radius: 800 meters (1/2 mile).
Flammable Properties and Hazards:	High temperatures and fire conditions can result in the formation of carbon monoxide carbon dioxide and chlorine gases.

6. ACCIDENTAL RELEASE MEASURES

Protective Precautions, Protective Equipment and Emergency Procedures:	Use proper personal protective equipment as indicated in Section 8. Wear a self-contained breathing apparatus and appropriate PPE. (gas tight, chemical protective) Evacuate personnel to safe area. Approach suspected leak area with caution and remove all sources of ignition. Toxic, corrosive vapor can spread from spill. Ventilate area or move container to a well-ventilated area. Before entering, check the atmosphere with the appropriate device. For fire fighters, wear standard protective clothing and SCBA.
Environmental Precautions:	Do not let product enter drains, sewers, watersheds or water systems.
Steps To Be Taken in Case Material Is Released or Spilled:	<p>Air Release: Reduce vapors with water spray. Stay upwind. Keep out of low areas. Collect runoff for disposal as potentially hazardous waste.</p> <p>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).</p> <p>Water Release: Add an alkaline material (lime, crushed limestone, sodium bicarbonate, or soda ash). Occupational Release: Stop leaking 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 areas and deny entry.</p> <p>Small Spills: Flood with water.</p> <p>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).</p>

7. HANDLING AND STORAGE

Precautions To Be Taken in Handling:	Subject to handling regulations: U.S. OSHA 29 CFR 1910.119. Wear leather safety gloves and safety shoes when handling cylinders. Protect cylinders from physical damage- do not drag, roll, slide, or drop. Never attempt to lift a cylinder with its cap; the cap is intended solely to protect the valve. Damaged cylinders should only be handled by specialists. Use a cart to move cylinders. Do not open the valve until connected to equipment prepared to use and close each valve after each use and when empty. High temperatures may damage the container
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	and could cause the pressure relief device to fail prematurely. For more precautions, see section 16. Never insert an object (e.g., wrench, screwdriver, pry bar) into cap openings; doing so may damage the valve and cause a leak. Use an adjustable strap wrench to remove over-tight or rusted caps. Slowly open the valve. If the valve is hard to open, discontinue use and contact your supplier.
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. 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 CRF 355.30). Store only where temperature will not exceed 52 C (125 F). Firmly secure upright to keep them from failing or being knocked over. Install valve protection cap firmly. Use a first-in, first-out inventory system to prevent storing full containers for long periods.
Other Precautions:	When handling a 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; stored and used 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 a 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	New Brunswick OELC: 7.5 mg/m ³
Respiratory Equipment (Specify Type):	<p>Any air-purifying half-mask respirator equipped with cartridge(s) providing protection against the compound of concern. 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. Any powered, air-purifying respirator with cartridge(s) providing protection against this substance. Any supplied-air respirator. Any self-contained breathing apparatus with a full-facepiece. Emergency or planned entry into unknown concentrations or IDLH conditions. Any self-contained breathing apparatus that has a full-facepiece and is operated in a pressure-demand or other positive-pressure mode. 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. Use air supplier respirator when working in confined space or where local exhaust or ventilation does not keep exposure below OEL. For emergencies, use SCBA.</p> <p>Escape: 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. Any appropriate escape-type, self-contained breathing apparatus.</p> <p>Under conditions of frequent use or heavy exposure, respiratory protection may be needed. Respiratory protection is ranked in order from minimum to maximum. Consider warning properties before use. For Unknown Concentrations or Immediately Dangerous to Life or Health. 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. Any self-contained breathing apparatus with a full facepiece.</p>			
Eye Protection:	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. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.
Protective Gloves:	Wear appropriate protective gloves to prevent skin exposure. Chemical resistant gloves. Neoprene rubber (HNBR)
Other Protective Clothing:	Wear appropriate protective clothing to prevent skin exposure. Chemical resistant apron. Chemical resistant boots. Metatarsal shoes and cuffless trousers for cylinder handling at packaging and filling plants. Select in ordinance with the current CSA Standard Z195, "protective Footwear"
Engineering Controls (Ventilation etc.):	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. Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product
Work/Hygienic/Maintenance Practices:	Do not let product enter drains.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical States:	<input checked="" type="checkbox"/> Gas <input type="checkbox"/> Liquid <input type="checkbox"/> Solid
Appearance:	Colorless Gas. Gives off white fumes in air
Odor:	Irritating odor- Pungent.
Odor Threshold:	1 - 5 ppm
Freezing Point:	-175 F (-115 C)
Boiling Point:	-121 F (-85.0 C)
Autoignition Pt:	NA
Flash Pt:	NA
Method Used:	NA
Explosive Limits:	LEL: No data. UEL: No data.
Specific Gravity (Water = 1):	1.187 at -85.0 C (-121 F)
Density:	1.161-1.19 g/cm ³ (at 20 C)
Bulk density:	NA
Vapor Pressure (vs. Air or mm Hg):	4260 kPa
Vapor Density (vs. Air = 1):	1.268 AIR=1
Evaporation Rate:	NA
Solubility in Water:	720000 mg/l
Solubility Notes:	Soluble: alcohol, ether, benzene, methanol.
Saturated Vapor Concentration:	NA
Viscosity:	0.092 cSt
Octanol/Water Partition Coefficient:	NA
pH:	acidic in solution
Percent Volatile:	NA
VOC / Volume:	NA
Particle Size:	NA
Heat Value:	NA
Corrosion Rate:	NA
Molecular Formula & Weight:	H-Cl 36.5 g/mol

10. STABILITY AND REACTIVITY

Reactivity:	High temperatures and fire conditions can result in the formation of carbon monoxide carbo dioxide and chlorine gases. Reacts vigorously with water, including moisture in air.
Stability:	Unstable [] Stable [X]
Conditions To Avoid - Instability:	Heat, flames and sparks. No smoking. Minimize contact with material. Avoid inhalation of material or combustion by-products. Containers may rupture or explode if exposed to heat. Avoid moisture in installation systems
Incompatibility Materials to Avoid:	Metals. Cyanides, amines, Bases, metal carbides, Oxidizing materials, Acids, Halo carbons, combustible materials, Halogens, metal salts, potassium permanganate, High temperatures and fire conditions can result in the formation of carbon monoxide carbo dioxide and chlorine gases, Sulphuric acid, metal acetylides, unsaturated organics
Hazardous Decomposition or Byproducts:	By products- hydrogen, chlorine, chloride
Possibility of Hazardous Reactions:	Will occur [X] Will not occur []
Conditions To Avoid - Hazardous Reactions:	No data available.

11. TOXICOLOGICAL INFORMATION

Epidemiology:	No information available.		
Teratogenicity:	No information available.		
Reproductive Effects:	No information available.		
Mutagenicity:	No information available.		
Neurotoxicity:	No information available.		
CAS#	Acute toxicity, LD50, Oral, Rabbit, 238-277 mg/kg		
7647-01-0	Acute toxicity, LC50, Inhalation, Rat, 3120 ppm/ 1 H.		
Carcinogenicity:	NTP - No	IARC Monographs - No	OSHA Regulated - No



12. ECOLOGICAL INFORMATION

General Ecological Information:	Environmental: No information available. Physical: No information available.
Results of PBT and vPvB assessment:	LC50, Western Mosquitofish (Gambusia affinis), adults(s), 252000 ug/L ,24H , Mortality LC50, Common Shrimp, Sand Shrimp (Crangon crangon), adult(s), 260000 ug/L, 48H, Mortality

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method:	Dispose of contents/containers in accordance with local/regional/national/international regulations. Subject to disposal regulations: U.S. EPA 40 CFR 262.
Hazardous Waste No:	D002

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
Labels:	 
Sea Transport:	
UN-No. (IMDG):	1050
Proper Shipping Name (IMDG):	CARBON MONOXIDE, COMPRESSED
Class:	119
Air Transport:	2 - Gases
MFAG-No	125
Transport document description (IATA):	
UN-No. (IATA):	1050
Proper Shipping Name (IATA):	Hydrogen chloride, anhydrous
Class (IATA):	2 - Gases

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)	Other US EPA or State Lists		
7647-01-0	Hydrogen chloride	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)	International Regulatory Lists		
7647-01-0	Hydrogen chloride	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:	08/02/2024
Additional Information About This Product:	<p>When you mix two or more chemicals, you can create additional, unexpected hazards. Obtain and evaluate the safety information for each component before you produce the mixture. Consult an industrial hygienist or other trained person when you evaluate the product. Before using any plastics, confirm their compatibility with this product.</p> <p>To promote safe use of this product, a user should (1) notify employees, agents, and contractors of the information in this SDS and of any other known product hazards and safety information, (2) furnish this information to each purchaser of the product, and (3) ask each purchaser to notify its employees and customers of the product hazards and safety information.</p>
NFPA Ratings:	0= Minimal Hazard
	1= Slight Hazard
	2= Moderate Hazard
	3= Serious Hazard
	4= Severe Hazard
Company Policy or Disclaimer:	<p>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.</p>