

## MATERIAL SAFETY DATA SHEET

### SECTION I IDENTIFICATION

Trade Name: Hydrochloric Acid, Hydrogen Chloride  
 Chemical Name/Synonyms: Hydrochloric Acid  
 C.A.S. Registry #: 7647010  
 Chemical Family: Acid  
 Formula: HCl  
 DOT Proper Shipping Name: Hydrochloric Acid Solution  
 DOT Hazard Class: 8 (Corrosive) PG II  
 DOT Identification #: UN1789  
 Placards Required: Corrosive, Bulk UN 1789  
 RQ: 5000 pounds  
 Packaging: R-34-37, S 2-26  
 DOT Emergency Guide No: 157  
 Manufacturer: Sentry Industries 5687 N.W. 36th Ave. Miami Fl. 33142  
 Telephone: (800) 227-2047 (305) 638-0800 (954) 527-4000

### SECTION II INGREDIENTS & HAZARDS

Ingredient (s):

Baume' Degree	<u>20</u> <sup>0</sup>	<u>22</u> <sup>0</sup>	<u>23</u> <sup>0</sup>
Hydrogen Chloride	31.4	35.2	37.1
Impurities	Trace	Trace	Trace
Balance	Water	Water	Water

Toxic fumes can be generated by contact with Alkalis, oxidants and many metals which cause spontaneous temperature rise.

### SECTION III PHYSICAL DATA

Baume'	Solubility In Water:	100	<u>22</u> <sup>0</sup>
Boiling Point °F:		31.4	144
Freezing Point °F:		Infinite	-86.3
Vapor Pressure (mm Hg) @ 20°C:	<u>20</u> <sup>0</sup>		80
Vapor Density (Air = 1):	-63.4		1.3
Specific Gravity 60/60°F:	25		1.179
Percent Volatile By Volume (%):	1.3		100
Weight Percent HCl:	1.160		35.2

Infinite	
	<u>23</u> <sup>o</sup>
	123
	-101.2
	165
	1.3
	1.189
	100
	37.2
	Infinite

Appearance and Odor: Colorless to light yellow fuming liquid pungent and suffocating.  
Molecular Weight of HCl is 36.47

#### **SECTION IV FIRE AND EXPLOSION HAZARD**

Flash Point: Non-flammable

Flammable Limits: Non-flammable

National Fire Rating System (NFPA): Health (Blue) - 3, Fire (Red) - 0,

Reactivity (Yellow) -0.

Hazard Material Identification System (HMIS) Health (Blue) - 3, Fire (Red) - 0,

Reactivity (Yellow) -1.

Extinguishing Media: Use spray, fog, and foam, dry chemical or CO<sub>2</sub> agents suitable for surrounding fire.

Special Fire Fighting Procedures: Wear self-contained breathing apparatus and full protective clothing. Avoid inhalation of fumes and body contact.

Unusual fire & Explosion Hazards: Flammable Hydrogen gas can be generated by reaction with many metals.

Additional Information: This material can be neutralized with an alkali such as soda ash, sodium bicarbonate.

#### **SECTION V HEALTH HAZARD DATA**

Threshold Limit Value: TWA - 5 ppm and 5 ppm ceiling or 7mg/CU.M. Maximum acceptable concentration 5 ppm or 7 mg/CU.M. ceiling.

Effects of Overexposure:

Eye Contact: Severe irritation, corrosive-redness-chemical burns-pain-blurred vision.

Skin Contact: Irritant, corrosive- reddening chemical burns of skin

Inhalation: Irritation to respiratory tract-pungent-sore throat coughing shortness of breath. Concentrations above 50 ppm will damage the upper respiratory tract.

Ingestion: Can cause corrosion of mucous membranes, perforation of esophagus and stomach, and laryngeal edam, may lead to convulsion, coma, and death.

Emergency and First Aid Procedures:

Eye Contact: Irrigate with water for at least 15 minutes, including under eyelids. Contact physician at once.

Skin Contact: Remove contaminated clothing. Flush affected area with large amounts of water preferably using a safety shower. If skin is burned contact a physician.

Inhalation: Remove to fresh air, keep in upright position, provide oxygen and obtain medical help.

Ingestion: Rinse mouth with water. Do not induce vomiting. Drink large quantities of water or milk of magnesia or limewater.

Additional Information: Concentrations above 1300 ppm are believed to be immediately dangerous to life.

## **SECTION VI REACTIVITY DATA**

Stability: Stable when properly stored and handled.

Incompatibility (Materials to Avoid): Base metals, metaloxides, alkaline materials, carbonates, amines, and hydroxides.

Hazardous Decomposition Products: Hydrogen chloride gas, hydrogen, chlorine gas.

Hazardous Polymerization: Will not occur

Conditions to Avoid: Heat sources - contact with metals or alkalis- body contact.

## **SECTION VII SPILL OR LEAK PROCEDURES**

Steps to be taken if material is Released or Spilled: Contain spills or leaks in plastic containers, dikes, ponds, or retention areas where spillage can be recovered or neutralized with soda ash or an alkaline solution. Do not allow material to enter sewers, streams, ponds or storm conduits. Consider recovery if the proper equipment is available. Personnel involved in the cleaning must be equipped with NIOSH approved respirator protection, rubber boots, gloves, and clothing to avoid body contact.

Waste Disposal Methods: Disposal is contingent upon allowable salt concentrations and the pH in the effluent stream. Dispose in accordance with Federal, State, and local regulations.

Additional Information: Reportable quantity - 5000 lbs. (2270 kg)

Do not absorb spills with flammable materials such as sawdust or combustible absorbents.

Contact your supplier for assistance. Plan in advance for such an incident and have necessary equipment available.

## **SECTION VIII SPECIAL PROTECTION INFORMATION**

Respirator Protection: Use NIOSH approved respirator protection suitable for acid gases.

Self-contained breathing apparatus should be used for strong concentrations.

Ventilation: Local exhaust ventilation - personnel should not be exposed to irritating effects of the fumes. Provide exhaust ventilation to meet TLV requirement. Due to the low freeze point this material is normally stored outside of buildings.

Protective Gloves: Rubber Latex p Plastic.

Eye Protection: Cover all splash goggles or face shields.

Other Protective Equipment: Rubber boots and clothing to avoid body contact such as rubber apron or rain suit. Eye wash and safety showers should be available in handling areas.

Additional Information: Avoid body contact and inhalation of fumes.

#### **SECTION IX SPECIAL PRECAUTIONS**

Precautions to be taken in handling and storing: Store in compatible equipment (acid proof).

Provide ventilation. Store away from alkaline materials, oxidizing agents and base metals.

Store in diked areas that meet Federal, State, and local regulations. If splashed with this material, remove contaminated clothing and thoroughly wash with water. Drench contaminated material with plenty of water.

Other Precautions: Keep metals away from storage areas as contact may cause hydrogen generation.

Additional Information: Only trained personnel should handle this material and someone should be in attendance throughout any loading, unloading or transfer operation.

The data in this Material Data Sheet relates only to the specific material designated and does not relate to its use in combination with any other material or process. The data contained is believed to be correct. However, since conditions of use are outside our control, it should not be taken as a warranty or representation for which Sentry Industries assume legal responsibility. This information is provided solely for your consideration, investigation, and verification.

For additional information, contact our technical service department.