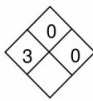


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MSDS #: CH01
 Effective Date: May 15, 2011

SECTION I NAME		24 HOUR EMERGENCY ASSISTANCE				
Product:	Hydrochloric Acid, 6.0 M (6.0 N) solution	NFPA 	CHEMTREC (800) 424-9300	HMIS*		
Chemical Synonyms:	Hydrogen Chloride, 6.0 M solution			Health: 3		
Formula:	Mixture. See Section II.			Fire: 0		
Unit Size:	up to 1.000 liter			Reactivity: 2		
CAS #:	Mixture. See Section II.	Hazard Rating				
		Minimal 0	Slight 1	Moderate 2	Serious 3	Severe 4

SECTION II INGREDIENTS OF MIXTURES			
Principal Component(s)	Percentage	Hazardous?	TLV Units
Hydrochloric Acid, HCl (CAS #: 7647-01-0)	18% as HCl	Yes	See Section V
Water, H ₂ O (CAS #: 7732-18-5)	82%	No	None established

DANGER! CORROSIVE! POISON!
CAUSES SEVERE BURNS. MAY BE FATAL IF SWALLOWED. VAPOR HARMFUL.

SECTION III PHYSICAL DATA			
Melting Point (°F):	-74 °C (-101 °F)	Specific Gravity (H ₂ O = 1):	1.18
Boiling point (°F):	53 °C (127 °F)	Percent Volatile by Volume (%):	100%
Vapor Pressure (mm of Hg):	190 at 25 °C (77 °F)	Evaporation Rate (Water = 1):	Data not listed.
Vapor Density (Air = 1):	Data not listed.		
Solubility in Water:	Infinite in water with slight evolution of heat		
Appearance & Odor:	Clear, colorless fuming liquid; pungent odor of hydrogen chloride		

SECTION IV FIRE AND EXPLOSION HAZARD DATA								
Flash Point (Method Used)	Not combustible.	Flammable Limits in Air % by Volume	N/A	<table border="1"> <tr> <td>Lower</td> <td>Upper</td> </tr> <tr> <td>N/A</td> <td>N/A</td> </tr> </table>	Lower	Upper	N/A	N/A
Lower	Upper							
N/A	N/A							
Extinguisher Media	CO ₂ , dry chemical, dry sand, alcohol-resistant foam.							

SPECIAL FIREFIGHTING PROCEDURES

In the event of a fire, wear full protective clothing and a NIOSH/MSHA-approved self-contained breathing apparatus with full faceplate operated in the pressure demand or other positive pressure mode.

(2004 EMERGENCY RESPONSE GUIDEBOOK, RSPA P 5800.9, GUIDE PAGE NO. 157)

UNUSUAL FIRE AND EXPLOSION HAZARDS

FIRE: Can react with metals to release flammable hydrogen gas. **EXPLOSION:** Not considered to be an explosion hazard. When heated to decomposition, emits toxic hydrogen chloride fumes and will react with water or steam to produce heat and toxic and corrosive fumes. Containers may burst when heated.

D.O.T. Hydrochloric acid, 8, UN1789, PG II, Ltd Qty ≤ 1 Lt.

SECTION V

HEALTH HAZARD DATA

CH01

THRESHHOLD LIMITED VALUE	RTECS No. MW4025000 Toxicity data: oral-rat LD50: 900 mg/kg. Airborne Exposure Limits: OSHA PEL: 5 ppm (TWA) Ceiling – ACGIH TLV: 5 ppm (TWA) Ceiling
EFFECTS OF OVEREXPOSURE	INGESTION: Corrosive! Swallowing hydrochloric acid can cause immediate pain and burns of the mouth, throat, esophagus and gastrointestinal tract. EYE: Vapors are irritating and may cause damage to the eyes. Splashes may cause severe burns and permanent eye damage. SKIN: Corrosive! Can cause redness, pain, and severe skin burns. INHALATION: Inhalation of vapors can cause coughing, choking, inflammation of the nose, throat, and upper respiratory tract. Target organs: Respiratory system, skin, eyes, lungs.
EMERGENCY AND FIRST AID PROCEDURES	INGESTION: Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person. EYES: Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention. SKIN: Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention. INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

SECTION VI

REACTIVITY DATA

Stability	Unstable	X	Conditions to Avoid	Stable under conditions of use and storage. Containers may burst when heated.
	Stable			
Incompatibility (Materials to Avoid)	Highly reactive with strong bases, metals, metal oxides, hydroxides, amines, carbonates, and other alkaline materials. Incompatible with cyanides, sulfides, sulfites, and formaldehyde.			
Hazardous Decomposition Products	When heated to decomposition, emits toxic hydrogen chloride fumes and will react with water or steam to produce heat and toxic and corrosive fumes.			
Hazardous Polymerization	Conditions to Avoid Not applicable.			
May Occur				
		X		

SECTION VII

SPILL OR LEAK PROCEDURES

Steps to be taken in case material is released or spilled	Cleanup personnel should wear protective clothing and respiratory equipment suitable for toxic or corrosive fluids or vapors. Isolate or enclose the area of the leak or spill. Neutralize with sodium bicarbonate, soda ash, or lime and flush to sewer with copious amounts of water.
Waste Disposal Method	Discharge, treatment, or disposal may be subject to Federal, State, or Local laws. These disposal guidelines are intended for the disposal of catalog-size quantities only. Neutralize with alkaline materials (sodium bicarbonate, soda ash, lime, etc.) and flush to sewer with copious amounts of water.

SECTION VIII

SPECIAL PROTECTION INFORMATION

Respiration Protection (Specify Type)	In the laboratory open bottle closure slowly and work in fume hood. If the TLV is exceeded, a NIOSH/MSHA-approved full facepiece chemical cartridge respirator may be worn.			
Ventilation	Local Exhaust	Yes (recommended)	Special	No
	Mechanical (General)	Yes	Other	No
Protective Gloves	Rubber, Neoprene	Eye Protection	Goggles and face shield	
Other Protective Equipment	Goggles and faceshield, eye wash station, proper gloves, ventilation hood, lab coat, apron.			

SECTION IX

SPECIAL PRECAUTIONS

Precautions to be Taken in Handling & Storing	Keep container tightly closed when not in use. Store in a cool, dry, well-ventilated area. Protect from physical damage and direct sunlight. Isolate from incompatible substances. Protect from moisture. Remove cap slowly while wearing protective equipment and using proper ventilation. Wash thoroughly after handling.
Other Precautions	Read label on container before using. Do not wear contact lenses when working with chemicals. For laboratory use only. Not for drug, food, cosmetic, or household use. Keep out of reach of children. Avoid contact with skin, eyes, and mucous membranes. Remove and wash contaminated clothing.

Revision #: 1

Date: May 15, 2011

Approved: Robert Bruce Thompson

Chemical Safety Coordinator: RBT

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees.
* Hazardous Materials Industrial Standards