

17193
WARD'SNatural Science Establishment, Inc.
P O Box 92912
Rochester, NY 14692-9012
716-359-2502**MATERIAL SAFETY DATA SHEET**397 Vansickle Road
St. Catharines, Ontario L2S 3T5
815 Fiero Lane
San Luis Obispo, CA 93403-5010MSDS No. HH 90
Effective Date June 24, 1998**SECTION I NAME 24 HOUR EMERGENCY ASSISTANCE**

Product	HYDROCHLORIC ACID, (0.1M - 1M/ 0.1N - 1N)	 CHEMTREC 800-424-9300 Day 716-226-6177 NFPA HAZARD RATING LEAST SLIGHT MODERATE 0 1 2 HMIS * HIGH EXTREME 3 4
Chemical Synonyms	Hydrochloric Acid, Water Solution	
Formula	Mixture. See Section II.	
Unit Size	up to 4 Lt.	
C.A.S. No.	Mixture. See Section II.	

SECTION II INGREDIENTS OF MIXTURES

Principal Component(s)	%	TLV Units
Hydrochloric Acid: (CAS No. 7647-01-0)	0.36-3.6%	See Section V.
Water: (CAS No. 7732-18-5)	96.4-99.6%	None established.

CAUTION! MAY BE HARMFUL IF SWALLOWED. CONTACT MAY**CAUSE IRRITATION TO SKIN, EYES AND MUCOUS MEMBRANES.****SECTION III PHYSICAL DATA**

Melting Point (°F)	Freezes: Approx. 0°C (32°F)	Specific Gravity (H ₂ O = 1)	1.0
Boiling Point (°F)	Approx. 100°C (212°F)	Percent Volatile by Volume (%)	100%
Vapor Pressure (mm Hg)	14 (water)	Evaporation Rate (Water = 1)	~ 1.
Vapor Density (Air=1)	0.7 (water)		
Solubility in Water	Complete.		
Appearance & Odor	Clear, colorless liquid; may have acid odor.		

SECTION IV FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used)	Non-flammable.	Flammable Limits in Air % by Volume	N/A	Lower	Upper
Extinguisher Media	Use any media suitable for extinguishing supporting fire.				

SPECIAL FIREFIGHTING PROCEDURES

In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective clothing.

(1996 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.7, GUIDE PAGE NO. 157)

UNUSUAL FIRE AND EXPLOSION HAZARDS

Non-combustible, but contact with common metals produce hydrogen which may form explosive mixtures with air.

D.O.T. HYDROCHLORIC ACID, SOLUTION, 8, UN 1789, PG II
Approved by U.S. Department of Labor "essentially similar" to form OSHA-20**SECTION V HEALTH HAZARD DATA**

HH 90

Threshold Limited ValueHydrogen chloride as gas or fume: TWA Ceiling Limits.
TWA: 5 ppm; 7.5 mg/m³ (AIR). (ACGIH 1992-93).**Effects of Overexposure**Hydrochloric acid solutions at these dilutions are not skin or eye irritant, but may be irritant to mucous membranes. **INGESTION:** May be harmful if swallowed.**Emergency and First Aid Procedures****INGESTION:** If swallowed, if conscious, give several glasses of water or milk to drink. Do **NOT** induce vomiting. Call physician immediately. Never give anything by mouth to an unconscious person. **EYES:** Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get medical attention. **SKIN:** Flush thoroughly with water, then wash with mild soap and water. **INHALATION:** Remove to fresh air. If illness or discomfort develops, get medical attention.**SECTION VI REACTIVITY DATA**

Stability	Unstable		Conditions to Avoid	Excessive temperatures or heat.
	Stable	X		

Incompatibility (Materials to Avoid)

Will react with most metals, alkalies, strong oxidants.

Hazardous Decomposition Products

Hydrogen chloride gas maybe evolved by heating. Hydrogen gas evolved by reaction with metals.

Hazardous Polymerization**Conditions to Avoid**

May Occur	Will Not Occur
	X

Not applicable.

SECTION VII SPILL OR LEAK PROCEDURES**Steps to be taken in case material is released or spilled**

Carefully neutralize with sodium bicarbonate and flush to sewer with copious amounts of water.

Waste Disposal MethodDischarge, 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.
Carefully neutralize with sodium bicarbonate, soda ash, or lime and flush to sewer with copious amounts of water.**SECTION VIII SPECIAL PROTECTION INFORMATION**

Respiration Protection None needed in normal laboratory handling. In misty conditions work in ventilation hood or wear NIOSH/MSHA-approved respirator.

Ventilation	Local Exhaust	None needed.	Special	No.
	Mechanical (General)	None needed.	Other	No.

Protective Gloves

Rubber.

Eye Protection

Chemical safety glasses.

Other Protective Equipment

Smock, apron, eye wash station, goggles, ventilation hood, proper gloves.

SECTION IX SPECIAL PRECAUTIONS**Precautions to be Taken in Handling & Storing**Store in a cool place.
Wash thoroughly after handling.

Keep container tightly closed when not in use.

Other Precautions

Read label on container before using. Do not wear contact lenses when working with chemicals.

Remove and wash contaminated clothing.

For laboratory use only. Not for drug, food or household use. Keep out of reach of children.

Revision	No. 7	Date	6/24/98	Approved	Michael Raszeja	Chemical Safety Coordinator	MR
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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. Printed on recycled paper.

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CHEMTREC
800-424-9300
Day 716-226-6177NFPA
HAZARD RATING
LEAST SLIGHT MODERATE

Health	1
Fire	0
Reactivity	1

HMIS *
HIGH EXTREME
0 1 2 3 4

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