

WARD'S MATERIAL SAFETY DATA SHEET

Natural Science Establishment, Inc.
 P O Box 92912
 Rochester, NY 14692-9012
 716-359-2502

387 Vancickle Road
 St. Catharines, Ontario L2S 3T5
 815 Fiero Lane
 San Luis Obispo, CA 95403-5010

MSDS No.
 Effective Date

HH 90
 June 24, 1998

SECTION I NAME 24 HOUR EMERGENCY ASSISTANCE

Product	HYDROCHLORIC ACID, (0.1M - 1M/0.1N - 1N)
Chemical Synonyms	Hydrochloric Acid, Water Solution
Formula	Mixture. See Section II.
Unit Size	up to 4 L.
C.A.S. No.	Mixture. See Section II.



 CHEMTREC
 800-424-9300
 Day 716-226-6177
 NFPA
 HAZARD RATING
 LEAST SLIGHT MODERATE HIGH EXTREME
 0 1 2 3 4

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	Lower N/A 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, 6, UN 1789, PG II**
 Approved by U.S. Department of Labor "essentially similar" to form OSHA-20

SECTION V HEALTH HAZARD DATA

Hydrogen 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	Stable	X
Conditions to Avoid	Excessive temperatures or heat.		
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

May Occur	Will Not Occur	X
-----------	----------------	---

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 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. 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 (Specify Type)	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

The information contained herein is furnished without warranty of any kind. Employees 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.