

MALEHIAL SAFETY DATA SHEET

July 1, 1998

SECTION I. NAME

Product Name: HYDROCHLORIC ACID, 1.0N, 0.1N.
 Synonyms: Hydrochloric Acid, 1.0, 0.1 Normal Solution
 Formula: HCl
 Net Weight: 1, 4 Liters
 S. No.: 7647-01-0



CHEMTREC
 800-424-9300
 Day: 216-326-6177
 Night: 216-334-4222

Health	3
Fire	0
Reactivity	2

HAZARD RATING
 HAZARD: 0
 SEVERITY: 1
 MODERATE: 2
 HIGH: 3
 EXTREME: 4

SECTION II. HAZARDOUS INGREDIENTS OF MIXTURES

Principal Hazardous Component(s): Hydrochloric Acid, 1.0 and 0.1 Normal Solution

%	TLV Units
3.1-0.31%	See Section V

WARNING! MAY BE HARMFUL IF SWALLOWED. MAY CAUSE IRRITATION TO MUCOUS MEMBRANES.

SECTION III. PHYSICAL DATA

Boiling Point (°F)	Freeze: Approx. 0°C.	Specific Gravity (H ₂ O = 1)	1.0
Boiling Point (°C)	Approx. 100°C (212°F)	Percent Volatile by Volume (%)	100%
Or Pressure (mm Hg)	0.7 (water)	Evaporation Rate (Ether = 1)	Greater than 1
Or Density (H ₂ O = 1)	14 (water)		
Stability in Water	Complete		
Appearance and Odor	Clear, colorless liquid; may have acid odor.		

SECTION IV. FIRE AND EXPLOSION HAZARD DATA

Flash Point (°F)	Non-flammable (NA)	Flammable Limits in Air (NA)	Lower: NA Upper: NA
Flash Point (°C)			
Self-Heating			
Stability			
Reactivity			
Other Data			

SECTION V. FIRE FIGHTING PROCEDURES

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

SECTION VI. SPECIAL FIRE AND EXPLOSION HAZARDS

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

SECTION VII. CORROSIVE MATERIAL.

SECTION V. HEALTH HAZARD DATA

Threshold Limited Value

Hydrogen chloride as gas or fume: TWA Ceiling Limit.
 TWA: 5ppm; 7 mg/m³ (AIR). (ACGIH 1993-84).

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

EYES: In case of contact, flush eyes thoroughly with water for at least 15 minutes. If irritation develops or persists get medical attention.
 SKIN: Flush with water.
 INGESTION: If swallowed, if conscious, give one or two glasses of water to drink and call physician.

SECTION VI. REACTIVITY DATA

Stability	Unstable	Conditions to Avoid	Excessive temperatures or heat.
	Stable		

Incompatibility (Materials to avoid): Will react with most metals, alkalies, strong oxidants.

Hazardous Decomposition Products

Hydrogen chloride gas may be evolved by heating. Hydrogen gas evolved by reaction with metals.

Hazardous Polymerization

May Occur	Will Not Occur	Conditions to Avoid	Not applicable.
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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.
 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-approved respirator.

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

Protective Gloves	Rubber.	Eye Protection	Chemical safety glasses.
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Other Protective Equipment: Smock, apron, eye wash station, goggles, ventilation hood, proper gloves.

SECTION IX. SPECIAL PRECAUTIONS

Precautions to be Taken in Handling and Storing: Store in a cool place. Wash thoroughly after handling.

Other Precautions: Read label on container before using.

FREY SCIENTIFIC

805 HICKORY LANE MANSFIELD OHIO 44905
 MSDS No. Effective Date

Approved by U.S. Department of Labor "essentially similar" to form OSHA 20

For laboratory use only. Not for drug, food or household use. Keep out of reach of children.
 Rev. No. 1/1/97 Date 1/1/97 Approved: [Signature] Chemical Safety Coordinator [Signature]

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