MATERIAL SAFETY DATA SHEET

FREY scientific
80 Northwest Blvd.
Nashua, NH 03063
(800) 225-3739

MSDS No.: HH0140
Effective Date: January 15, 2008

SECTION I NAME

Product	Hydrochloric Acid, 3% Solution
Chemical Synonyms	Hydrochloric Acid, Water Solution
Formula	Mixture. See Section II.
Unit Size	up to 3.785 Lt.
C.A.S. No.	Mixture. See Section II.

24 HOUR EMERGENCY ASSISTANCE

CHEMTREC 800-424-9300
Day 585-226-6177

NFPA: 0 (top), 3 (left), 0 (right)

HMIS *	
Health	3
Fire	0
Reactivity	2

HAZARD RATING

MINIMAL	SLIGHT	MODERATE	SERIOUS	SEVERE
0	1	2	3	4

SECTION II INGREDIENTS OF MIXTURES

Principal Component(s)	%	TLV Units
Hydrochloric Acid: (CAS No. 7647-01-0)	3%	See Section V.
Water: (CAS No. 7732-18-5)	97%	None established.
WARNING! CORROSIVE!		

HARMFUL IF SWALLOWED. IRRITANT TO EYES AND MUCOUS MEMBRANES.

SECTION III PHYSICAL DATA

Melting Point (°F)	Freezes approx. 0°C (32°F)	Specific Gravity (H_2O = 1)	Approx. 1.0
Boiling Point (°F)	Approx. 100°C (212°F)	Percent Volatile by Volume (%)	97%
Vapor Pressure (mm Hg)	14 (water)	Evaporation Rate (Water =1)	Slightly less than 1.
Vapor Density (Air=1)	0.7 (water)		
Solubility in Water	Complete.		
Appearance & Odor	Clear, colorless liquid; may have acrid odor.		

SECTION IV FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used)	Non-flammable.	Flammable Limits in Air % by Volume	Lower	Upper
		N/A		
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.

(2004 EMERGENCY RESPONSE GUIDEBOOK, RSPA P 5800.9, 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, 8, UN1789, PG II, Ltd Qty ≤ 1 Lt.

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

SECTION V HEALTH HAZARD DATA HH0140

Threshold Limited Value
Hydrogen chloride as gas or fume: TWA Ceiling Limits.
TWA: 5 ppm; 7 mg/m³ (AIR). (ACGIH 2001).

Effects of Overexposure
Irritant to eyes, skin and mucous membranes. May cause burns. Vapors may cause coughing, choking, inflammation of the respiratory tract. May cause burns to mouth, throat, esophagus and gastrointestinal tract. Exercise appropriate procedures to minimize potential hazards. 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			Conditions to Avoid
	Unstable		Excessive temperatures or heat.
	Stable	X	

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		Conditions to Avoid
May Occur	Will Not Occur	Not applicable.
	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	Goggles and face shield.

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

SECTION IX SPECIAL PRECAUTIONS

Precautions to be Taken in Handling & Storing
Keep container tightly closed when not in use.

Store in a cool place.
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 or household use. Keep out of reach of children.

Remove and wash contaminated clothing.

Revision No.	Date	Approved	Chemical Safety Coordinator
1	01/15/08	James A. Bertsch	JAB

MATERIAL SAFETY DATA SHEET

FREY scientific

80 Northwest Boulevard
Nashua, NH 03063
1-800-225-3739

HH0090 HH0093
HH0094 HH0095 HH0130
HH0140 HH0150 HH0155
MSDS No.: HH0158 HH0160 HH0162
Effective Date: January 10, 2007

SECTION I NAME

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Day 585-226-6177

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Unit Size	up to 3.785 Lt.
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NFPA: 0 / 3 / 0

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HAZARD RATING

MINIMAL	SLIGHT	MODERATE	SERIOUS	SEVERE
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SECTION II INGREDIENTS OF MIXTURES

Principal Component(s)	%	TLV Units
Hydrochloric Acid: (CAS No. 7647-01-0)	1.51 - 10%	See Section V.
Water: (CAS No. 7732-18-5)	90 - 98.49%	None established.
WARNING! CORROSIVE!		

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HH0090

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May cause burns to mouth, throat, esophagus and gastrointestinal tract.
Exercise appropriate procedures to minimize potential hazards.
Target organs: Respiratory system, skin, eyes, lungs.

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Revision No. 5	Date 01/10/07	Approved James A. Bertsch	Chemical Safety Coordinator JAB