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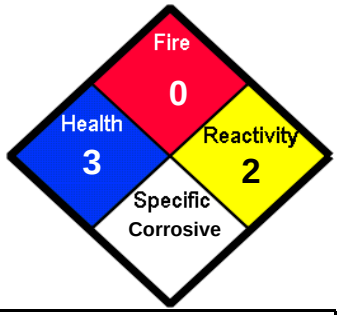

MATERIAL SAFETY DATA SHEET

PRODUCT NAME:	MURIATIC ACID ALL GRADES	DATE:	10/29/2004

MANUFATURER'S NAME:

DISTRIBUTED BY: Univar USA Inc.
6100 Carillon Point
Kirkland, WA 98033
425-889-3400

NATIONAL EMERGENCY RESPONSE CENTER: 1-800-424-8802
FOR EMERGENCY DURING TRANSPORTATION ONLY: 1-800-535-5053

SECTION I - PRODUCT IDENTIFICATION

TRADE NAME: MURIATIC ACID ALL GRADES

PRODUCT USE: Chemical Processing / Metal Cleaning

CHEMICAL NAME: Hydrogen Chloride

CHEMICAL FORMULA: HCL

CHEMICAL FAMILY:

CAS NO.:

SYNONYMS/ COMMON NAMES:
HCL Solution
Aqueous Hydrogen Chloride
Hydrochloric Acid

SHIPPING NAME & HAZARD CLASS- (DOT):

SECTION II - EMERGENCY RESPONSE INFORMATION

HEALTH HAZARDS: See Section VI

FIRE OR EXPLOSION: See Section IX

IMMEDIATE PRECAUTIONS: WASH FROM EYES: Section V, First Aid
Section X, Reactivity
Section XI, Spill, Leak & Disposal Procedures

SPILLS OR LEAKS: See Section XI

FIRST AID: See Section V

SECTION III - COMPOSITION

COMPONENT	CAS NO.	% by weight	PEL	TLV	OTHER	HAZARD
	7732-18-5	64-91	N/A	N/A		

SECTION IV - PHYSICAL PROPERTIES

Concentration	
Appearance	Clear to light
Boiling Point, F	140 f (60 c) - 221 f (105 c)
Color	
Density	8.75 to 9.83 LB/GAL
Evaporation Rate	Not available
Freeze Point, F	-29 f (-34 c) - 5 f (-15 c)
Melting Point	Not available
Molecular Weight	
Odor	Pungent order
pH	0.2% Solution has a ph of 2
Solubility in water	100
Specific Gravity	(WATER=1) 1.05 TO 1.18
Vapor Density	(AIR=1) 1.3 @ 20C
Vapor Pressure	14.6 TO 80
Viscosity	Not applicable

SECTION V - FIRST AID MEASURES

EYES: Immediately flush eyes with a directed stream of water for at least 15 minutes, forcibly holding eyelids apart to ensure complete irrigation of all eye and lid tissue. Washing eyes within several seconds is essential to achieve maximum effectiveness. Get medical attention as soon as possible.

SKIN: Flush thoroughly with cool water under shower while removing contaminated clothing and shoes. Discard non-rubber shoes. Wash clothing before reuse. Get medical attention as soon as possible.

INHALATION: Remove to fresh air. If breathing is difficult, have trained person administer oxygen. If respiration stops, have a trained person administer artificial respiration. Get medical attention immediately.

INGESTION: Never give anything by mouth to an unconscious person. If swallowed, do not induce vomiting. Give large quantities of water. (If available, give several glasses of milk.) If vomiting occurs spontaneously, keep airway clear and give more water. Get medical attention immediately.

NOTES TO PHYSICIAN:

No specialized procedures. Treat for clinical symptoms.

SECTION VI - HEALTH HAZARDS IDENTIFICATION / INFORMATION

OVERVIEW: Corrosive. Causes severe burns to eyes, skin and digestive tract. Severely irritating to respiratory tract, eyes and skin. May cause irritation if digestive tract. May cause discoloration of teeth.
Clear to light amber liquid with a pungent odor.

SHORT-TERM EXPOSURE (ACUTE)

INHALATION: Breathing gas, fog, mist or spray may result in coughing and burning or choking sensation in the throat. If inhaled deeply, fluid may collect in the lungs (edema). Prolonged or repeated exposure to concentrations in excess of the exposure limits may cause discoloration of teeth.

EYES: Contact rapidly causes severe irritation of the eyes and eyelids. If not quickly removed by thorough irrigation with water, there may be prolonged or permanent visual impairment or total loss of sight. Hydrogen chloride gas escaping from the aqueous solution is immediately irritating.

SKIN: Contact may cause burns and tissue destruction.

INGESTION: Can cause severe burns to the mucous membranes of the digestive tract.

OTHER HEALTH EFFECTS OR NOTES:

Routes of entry: Inhalation, Ingestion. Target Organs: Eyes, Skin, Respiratory tract, Gastrointestinal tract.
Irritancy: All Routes of Exposure. Sensitizing Capability: None Known. Reproductive Effects: None Known.
Cancer Information: Not known to be carcinogenic.

SECTION VII - TOXICOLOGICAL INFORMATION

ACUTE ORAL: LD50 (RABBIT) 900 MG/KG DERMAL:

ACUTE INHALATION: LC50 (RAT, 1HR) 3124 PPM

CARCINOGENICITY:

OTHER DATA:

SECTION VIII - PERSONAL PROTECTION / EXPOSURE CONTROLS

VENTILATION:

RESPIRATORY: Wear a NIOSH/MSHA approved respirator following manufacturer's recommendations, where airborne contaminants may occur.

EYE/FACE: Wear chemical safety goggles plus full face shield to protect against splashing when appropriate.

SKIN: Wear chemical resistant gloves such as rubber, neoprene or vinyl.

Whenever there is a possibility of splash or contact wear a chemical resistant full body suit and boots.

OTHER: Emergency shower and eyewash facility should be in close proximity

SECTION IX - FIRE FIGHTING MEASURES

FLASH POINT: Non-Flammable
METHOD: Not Applicable
AUTOIGNITION TEMPERATURE: Not Applicable

FLAMMABLE LIMITS IN AIR, BY % VOLUME
LOWER: Non-Flammable UPPER: Non- Flammable

FLAMMABLE LIMITS (% BY VOLUME)
LOWER: UPPER:

EXTINGUISHING MEDIA: Non-Flammable/ Non- Combustible
Use agents appropriate for surrounding fire.
Use water spray to keep fire-exposed containers cool.

FIRE FIGHTING PROCEDURES:

Keep unauthorized personnel removed and upwind. Wear NIOSH/MSHA approved positive pressure self-contained breathing apparatus and full protective clothing.

FIRE & EXPLOSION HAZARD:

This product is nonflammable and nonexplosive under normal conditions of use. At high temperatures this product can decompose to give off hydrochloric acid and gas.

Vapors are irritating to the eyes and nose. Liquid is corrosive to the skin.

This product attacks most metals with the evolution of explosive hydrogen gas.

SENSITIVITY TO MECHANICAL IMPACT: Not Sensitive

SENSITIVITY TO STATIC DISCHARGE: Not Sensitive

NFPA RATING: HEALTH: 3 REACTIVITY: 2

FIRE: 0 SPECIFIC HAZARD:

SECTION X - STABILITY AND REACTIVITY

STABILITY:			STABLE	X	UNSTABLE	
HAZARDOUS POLYMERIZATION:		OCCURS			WILL NOT OCCUR	X
REACTS WITH:	AIR		OXIDIZERS		METALS	X
	WATER	X	ACIDS		OTHER	
	HEAT		ALKALIS	X	NONE	

HAZARDOUS DECOMPOSITION PRODUCTS:

Generates toxic and irritating gases at high temperatures. Reacts with metals with the evolution of hydrogen which when mixed in air may result in fire or explosion if ignited. Chlorine gas may be released by mixing with strong oxidizers.

COMMENTS: Avoid contact with alkali metals or other active metals and certain of their compounds. Do not add water directly to the product. The product may be added to water with mixing and dilution

SECTION XI - SPILL, LEAK AND DISPOSAL PROCEDURES

PERSONAL PRECAUTIONS:

Evacuate unnecessary personnel.
Keep unprotected personnel upwind of the spill area.

- Follow protective measures provided under Personal Protection in Section 8.

ENVIRONMENTAL PRECAUTIONS:

Contain spill with dike to prevent entry into sewers or waterways.

According to 40 CFR 302 Table 302.4 (CERCLA), environmental releases that exceed the RQ must be reported to the National Response Center by calling 800-424-8802 (202-426-2675) and the state emergency response commission and the local emergency planning committee (40 CFR 355.49) as appropriate.

METHODS FOR CLEANING UP:

Large spills should be removed by vacuum truck. Smaller spills may be soaked up and neutralized with soda ash which should be placed in closed containers, labeled and stored in a safe place outdoors to await proper disposal. Spills on areas other than pavement, E.G., dirt or sand, may be handled by removing the affected soils and placing in approved containers.

Comply with all applicable governmental regulations on spill reporting, and handling of disposal waste.

DISPOSAL METHODS:

Consult appropriate federal, state and local regulatory agencies to ascertain proper disposal procedures.

OTHER NOTES:

SECTION XII - HANDLING AND STORAGE

HANDLING:

Wear personal protective equipment as described in exposure controls / personal protection
Avoid breathing vapor, use with adequate ventilation. Wear NIOSH/MSHA approved respiratory protection if there is potential for exposure above the exposure limits.
Keep away from sources of ignition because toxic, corrosive and explosive gases mat be formed.
Wash thoroughly after handling
Open container carefully to avoid spurting

SPECIAL MIXING AND HANDLING INSTRUCTIONS:

Do not add water directly to product, and do not mix with alkalies such as sodium hydroxide (caustic soda) or alkali metals, to avoid a possible violent reaction. The product may be added to water with mixing and dilution.

STORAGE:

Store in a cool, ventilated area away from incompatible materials.
Dike and vent storage tanks.
Do not store in unlined containers.

SECTION XIII - ECOLOGICAL INFORMATION

AQUATIC ECOTOX DATA

FISH:

LC50	(96 HR.)	(MOSQUITO FISH)	282 MG/L
LC100	(24 HR.)	(TROUT)	10 MG/L

INVERTEBRATES:

LC50	(48 HR.)	(STARFISH)	100-330 MG/L
LC50	(48 HR.)	(SHRIMP)	100-330 MG/L
LC50	(48HR.)	(SHORE CRAB)	240 MG/L

AMPHIBIANS: No data available

PLANTS: No data available

TERRESTRIAL ECOTOX DATA

WILDLIFE: No data available

PLANTS: No data available

ENVIRONMENTAL FATE DATA

BIOTIC: No data available

ABIOTIC: Dissociates in water

ADDITIONAL INFORMATION

Hydrochloric acid can be acutely toxic in aquatic life through reduction in aqueous ph to toxic levels. Typically most aquatic species are intolerant of ph levels lower than 5.5 for any extended length of time. Reduction in aqueous ph levels may also cause the liberation of metals such as aluminum which will also contribute to exhibited toxicity. Hydrochloric acid will dissociate in water and undergo neutralization with carbonate and other naturally occurring buffering agents. Terrestrial organisms would be subject to severe burns if exposed to HCL during an accidental release. A large HCL release could lead to a persistent reduction in ph in a poorly buffered system lacking in carbonates or other naturally occurring acid neutralizers. Care should be taken to avoid accidental releases to aquatic or terrestrial ecosystems.

SECTION XIV - DISPOSAL CONSIDERATIONS

The materials resulting from clean-up operations may be hazardous wastes and, therefore subject to specific regulations. Package, store, transport, and dispose of all (clean up) materials and any contaminated equipment in accordance with all applicable federal, state and local regulations.

Ensure that all responsible federal, state, and local agencies receive proper notification of spill and disposal methods.

Shipments of waste materials may be subject to manifesting requirements per applicable regulations. Appropriate disposal will depend on the nature of each waste material and should be done by a competent and properly permitted contractor.

SECTION XV - TRANSPORT INFORMATION

DOT PROPER SHIPPING NAME:	Hydrochloric acid, solution
DOT HAZARD CLASS:	8
DOT IDENTIFICATION NUMBER:	UN1789
DOT PACKING GROUP:	II
DOT HAZARDOUS SUBSTANCE(S):	RQ 5,000 LBS. (Hydrochloric Acid)
DOT MARINE POLLUTANT(S):	Not Applicable
ADDITIONAL DESCRIPTION RQMT:	Not Applicable

SECTION XVI - REGULATORY INFORMATION

US FEDERAL REGULATIONS:

OSHA Standard 29 CFR 1910.1200 requires that information be provided to employees regarding the hazards of chemicals by means of a hazard communication program including labeling, material safety data sheets, training and access to written records. We request that you, and it is your legal duty to, make all information in this material safety data sheet available to your employees.

SARA/TITLE III HAZARD CATEGORIES:

IMMEDIATE (ACUTE) HEALTH:	YES	REACTIVE HAZARD:	YES
DELAYED (CHRONIC) HEALTH:	NO	SUDDEN RELEASE OF PRESSURE:	NO
FIRE HAZARD:	NO		

HMIS HAZARD RATINGS:

HEALTH HAZARD: 3 FIRE HAZARD: 0 REACTIVITY: 2

SPECIFIC HAZARD: N/A

STATE REGULATIONS:

INTERNATIONAL REGULATIONS:

Consult local laws for applicability.

SECTION XVII - OTHER INFORMATION

MSDS LEGEND:

ACGIH	AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS
CAS	CHEMICAL ABSTRACTS SERVICE REGISTRY NUMBER
CEILING	CEILING LIMIT (15 MINUTES)
CEL	CORPORATE EXPOSURE LIMIT
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
PEL	PERMISSIBLE EXPOSURE LIMIT (OSHA)
STEL	SHORT TERM EXPOSURE LIMIT (15 MINUTES)
TDG	TRANSPORTATION OF DANGEROUS GOODS (CANADA)
TLV	THRESHOLD LIMIT VALUE (ACGIH)
TWA	TIME WEIGHTED AVERAGE (8 HOURS)
WHMIS	WORKER HAZARDOUS MATERIALS INFORMATION SYSTEM (CANADA)

FOR ADDITIONAL INFORMATION

CONTACT: MSDS Coordinator Horizon Chemical Co., Inc. During Business Hours, Central Time
651.917.3075
Manufacturer MSDS's can also be obtained by contacting the number above. See notice below.

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END OF MSDS