

VIKING CHEMICAL COMPANY

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Date revised: 2/28/2006

MATERIAL SAFETY DATA SHEET**A. IDENTIFICATION AND EMERGENCY INFORMATION**

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PRODUCT NAME: Muriatic Acid, 20 deg. & 22 deg. Baume,
 Technical, Industrial and Commercial Grade

EMERGENCY TELEPHONE NUMBER:

CHEMTREC - 800/424-9300
 VIKING Chemical Company – 815/397-0500

B. COMPONENTS AND HAZARD INFORMATION

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Hazard Components (Specific Chemical Identity):

(Common Name (s))	CAS #	OSHA PEL	ACGIH TLV	PERCENT
HYDROGEN CHLORIDE	7647-01-0	5 PPM CEIL	5 PPM CEIL	35.0

Hazardous Materials Identification System (HMIS):

Health = 3 Flammability = 0 Reactivity = 0

C. EMERGENCY AND FIRST AID PROCEDURES

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EYE CONTACT: Flush eyes with large amounts of water for at least 30 minutes, lifting upper and lower lids occasionally. Remove contact lenses if applicable. **SEEK IMMEDIATE MEDICAL ATTENTION.**

SKIN CONTACT: Flush area with large amounts of water for at least 30 minutes. Remove contaminated clothing. Discard contaminated shoes. If irritation occurs, **SEEK MEDICAL ATTENTION.**

INHALATION: Remove person to fresh air at once. If breathing has stopped, resuscitate and call or transport to a medical facility.

INGESTION: CORROSIVE..DO NOT INDUCE VOMITING: Vomiting will cause further damage to the throat. Dilute by giving large amounts of water or milk of magnesia. Keep warm and quiet. NEVER give anything by mouth to an unconscious person. SEEK MEDICAL ATTENTION IMMEDIATELY.

D. FIRE AND EXPLOSION HAZARD INFORMATION

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FLASH POINT: None METHOD USED: N/A

FLAMMABLE OR EXPLOSIVE LIMITS (APPROXIMATE PERCENT BY VOLUME IN AIR Estimated values: Lower Flammable Limit: N/A Upper Flammable Limit: N/A

National Fire Protection Association Rating (NFPA): Health = 3 Flammability = 0 Reactivity = 0

EXTINGUISHING MEDIA AND FIRE FIGHTING PROCEDURES: This product is not flammable. Water spray, foam, carbon dioxide, or dry chemical may be used in areas where this product is stored.

FIRE & EXPLOSION HAZARDS: This material is not considered flammable, nor will it support combustion.

FIRE-FIGHTING EQUIPMENT: Wear protective clothing and pressure demand self-contained respiratory equipment. Hydrochloric Acid itself is non-flammable, however, a latent fire or explosion hazard exists when in contact with metals due to generations of hydrogen gas.

'EMPTY' CONTAINER WARNING: 'Empty' containers retain residue (liquid and/or vapor) and may be dangerous. Do not attempt to clean since residue is difficult to remove. 'Empty' drums should be completely drained, properly bunged and should be disposed of in an environmentally safe manner and in accordance with local, state and governmental regulations. For further information, please refer to Occupational Safety and health Administration regulations. ANSI Z49.1.

E. HEALTH AND HAZARD INFORMATION

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EFFECTS OF OVEREXPOSURE (signs and symptoms of exposure):

EYE CONTACT: The greatest hazard is the corrosive action. This product is very destructive to eyes and eye tissue on contact. It could cause severe burns that result in eye damage and even blindness.

SKIN CONTACT: This product is highly corrosive and is destructive to all tissue contacted and is likely to cause severe burns.

SKIN ABSORPTION: It is not likely to be absorbed in toxic amounts.

INHALATION: ACGIH TLV and OSHA guide is 5 ppm ceiling for Hydrogen Chloride and is severely irritating. Airborne mist or spray may cause damage to the upper respiratory tract with burning, choking, coughing, headaches and rapid heartbeat. Levels of 10 to 35 ppm can cause irritation of throat and 50-100 ppm is nearly unbearable for 1 hour. Inflammation, destruction of nasal passages and breathing difficulties can occur with higher concentrations and may be delayed in onset. 1000-2000 ppm can be fatal.

INGESTION: May cause severe burns and complete perforations of the mucous membranes of the mouth, throat, esophagus and stomach. Nausea, pain and vomiting frequently occur. Depending upon amount swallowed, holes in the intestinal tract, kidney inflammation, shock and death can occur.

SYSTEMIC & OTHER EFFECTS:

ACUTE EXPOSURE: Corrosive to mucous membranes of the upper respiratory tract, mouth, throat, esophagus and stomach. Corrosive to the eyes and skin.

CHRONIC EXPOSURE: Superficial destruction of the skin. Possible permanent corneal damage. Varying degrees of damage to the respiratory and digestive tracts.

F. PHYSICAL DATA

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The following data is approximate or typical values and should not be used for precise design purposes.

BOILING POINT: 150 deg. F. - 230 deg. F.
(65.6 deg. C. - 110.0 deg. C.)

SPECIFIC GRAVITY: (15.6/15.6 deg. C.)	20o Baume @ 1.160 22o Baume @ 1.1789
VAPOR PRESSURE: (at 20 deg. C.)	78 mmHg
VAPOR DENSITY: (Air = 1)	1.27
PERCENT VOLATILE: (by volume)	35%
SOLUBILITY IN WATER:	complete
APPEARANCE / ODOR:	clear, colorless liquid, pungent, irritating odor

G. REACTIVITY

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STABILITY: Contact with metals may cause generation of explosive or flammable hydrogen.

INCOMPATIBILITY (specific materials to avoid):

Contact with strong bases can cause violent reaction generating large amounts of heat. Reactions with metals can release flammable hydrogen gas. Avoid bases, metals, mercuric sulfate, perchloric acid, carbides of calcium, cesium, rubidium, acetylides of cesium and rubidium, phosphides of calcium and uranium and lithium silicide. Hydrogen chloride can react with cyanide, forming lethal concentrations of hydrocyanic acid.

HAZARDOUS DECOMPOSITION PRODUCTS: None

HAZARDOUS POLYMERIZATION: Will not occur.

H. SPILL OR LEAK PROCEDURES

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STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Evacuate immediate area where concentrated fumes are present. Clean-up personnel must wear proper protective equipment. Avoid personal contact. Contain spill if possible; if not, dilute and flush with water. Following flushing, neutralize with lime, limestone, or soda ash. If spill enters sewer system or stream, notify authorities. Neutralization products, both liquid and solid, must be recovered for proper disposal.

DISPOSAL METHOD: Package, store, transport and dispose of all cleanup materials in accordance with all local, state and federal regulations.

I. PROTECTION AND PRECAUTIONS

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VENTILATION: Use local exhaust to maintain air concentration level below 5 ppm and capture irritating vapors, mists or fumes.

RESPIRATORY PROTECTION: For vapor concentrations which exceed or are likely to exceed 5 ppm, a NIOSH or OSHA approved supplied-air respiratory with acid gas canister is acceptable. Approved self-contained breathing apparatus with full-face piece should be worn when air concentrations exceed 100 ppm or during leaks and/or emergencies and in confined spaces.

PROTECTIVE GLOVES: Neoprene chemical-resistant gloves are recommended to avoid prolonged or repeated skin contact.

EYE PROTECTION: Splash goggles or full-face shield are recommended at all times in the area where this product is used or stored.

OTHER PROTECTIVE EQUIPMENT: Use chemical-resistant apron, PVC rain suit or other impervious clothing at all times when using or transporting this product to avoid contact.

WORK PRACTICES / ENGINEERING CONTROLS: Store in closed, properly labeled, rubber-lined steel, acid-resistant plastic, or glass containers. DO NOT store near strong alkalis or reactive materials. DO NOT remove or deface label or tag.

PERSONAL HYGIENE: Cleanse skin thoroughly after contact, before breaks and meals and at end of work period. Remove contaminated clothing and discard shoes. Maintain good personal hygiene.

J. TRANSPORTATION INFORMATION

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TRANSPORTATION INCIDENT INFORMATION: For further information relative to spills resulting from transportation incidents, refer to latest Department of Transportation Emergency Response Guidebook for Hazardous Materials Incidents. DOT P 5800.3.

DOT SHIPPING INFORMATION

Hydrochloric Acid, Solution, 8, UN1789, II
Muriatic Acid

K. ADDITIONAL INFORMATION
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Chronic low exposures may cause corrosion of the teeth. No systemic effects are expected. Consult standard literature. No specific antidote. Treatment based on the sound judgment of the physician, and the individual reactions of the patient.

THE INFORMATION HEREIN IS GIVEN IN GOOD FAITH
BUT NO WARRANTY, EXPRESSED OR IMPLIED IS MADE

N.A. (not applicable)
N.D. (not determined)

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