



# Aqua Chemical Supply, Inc.

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## 1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: MURIATIC ACID 20 DEG.  
Synonyms: Hydrochloric Acid; Hydrogen Chloride  
CAS Number: 7647-01-0  
Chemical Family: Inorganic Acid  
Formula: - 31.5% HCl

Manufacturer  
Hydrite Chemical Co.  
300 N. Patrick Blvd.  
Brookfield, WI 53008

Emergency telephone number: For emergency assistance involving chemicals call  
CHEMTREC day or night at: 1-800-424-9300

## 2. HAZARDS IDENTIFICATION

**EMERGENCY OVERVIEW: DANGER! CORROSIVE.** Causes severe burns to eyes, skin, and respiratory tract. Causes digestive tract burns. Reacts with most metals to form explosive/flammable hydrogen gas. **DANGER!** May react violently with water. Harmful or fatal if swallowed. Harmful or fatal if inhaled.

Physical State: Liquid.  
Color: Clear. Colorless to faint yellow.  
Odor: Sharp, pungent, irritating odor.

### POTENTIAL HEALTH EFFECTS

Routes of Exposure: Eyes. Ingestion. Inhalation. Skin.

Target Organs: Eyes. Skin. Respiratory System.

Eye Contact: **CORROSIVE**-Causes severe irritation and burns. Liquid or vapor may cause: irritation. Burns. Tissue destruction. Permanent eye damage. Blindness.

Skin Contact: **CORROSIVE**- Causes severe irritation and burns. Contact may cause: redness, swelling, pain, permanent skin damage. Concentrated solutions may cause: ulceration, discoloration. Death may result from burns which extend over large portions of the body. Prolonged or repeated exposure with dilute solutions may cause: irritation, dermatitis (inflammation of the skin).

Skin Absorption: No absorption hazard expected under normal use. May be absorbed through the skin. Less exposure may cause: dermatitis and photo sensitization.

Inhalation: **CORROSIVE**- Causes severe irritation and burns. Vapors or mists may irritate: nose. Throat, respiratory tract. Vapors or mists may cause: coughing. Choking, difficulty breathing. Burning, headache, rapid heartbeat. Prolonged or severe overexposure may cause: burns, ulcerations, pulmonary edema, tissue destruction, circulatory failure, death, erosion of teeth. Effects may be delayed.

Ingestion: **CORROSIVE**- Causes severe irritation and burns. May cause damage to the: mouth, throat, esophagus, gastrointestinal tract. May cause: severe pain, difficulty swallowing, intense thirst, nausea, vomiting, diarrhea, perforation of the intestinal tract, kidney inflammation, shock, collapse, unconsciousness, death. Aspiration can result in severe lung damage or death.

Medical Conditions Aggravated by Exposure to Product: Eye disorders. Respiratory system disorders. Skin disorders.

Other: Chronic or prolonged exposure may be associated with changes in pulmonary function, laryngitis, glottal edema, chronic bronchitis, and dermatitis, erosion of tooth enamel, conjunctivitis and upper respiratory tract irritation.

**Cancer Information:**

This product does not contain 0.1% or more of the known or potential carcinogens listed in NTP, IARC, or OSHA.

Potential Environmental Effects: See Section 12.

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS Number
Hydrogen Chloride	7647-01-0

Composition comments: All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

### 4. FIRST AID MEASURES

**Eye Contact:** Immediately flush eyes with plenty of water for at least 15 minutes while holding eyelids open. Tilt head to avoid contaminating unaffected eye. Get immediate medical attention. Do not attempt to neutralize with chemical agents.

**Skin Contact:** Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Do not apply oils or ointments unless ordered by the physician.

**Inhalation:** Remove to fresh air. If breathing is difficult, administer oxygen. If not breathing, give artificial respiration, preferably mouth-to-mouth. GET MEDICAL ATTENTION IMMEDIATELY.

**Ingestion:** If fully conscious, drink a quart of water. DO NOT induce vomiting. CALL A PHYSICIAN IMMEDIATELY. If unconscious or in convulsions, take immediately to a hospital or a physician. NEVER induce vomiting or give anything by mouth to an unconscious victim. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs.

### 5. FIRE FIGHTING MEASURES

**Extinguishing Media:** Not combustible. For fires in area use appropriate media. For example: Water spray. Carbon dioxide. Dry chemical. Foam.

**Fire Fighting Methods:** Evacuate area of unprotected personnel. Wear protective clothing including NIOSH• approved self-contained breathing apparatus. Remain upwind of fire to avoid hazardous vapors and decomposition products. Use water spray to cool fire-exposed containers and disperse vapors. Product generates heat upon addition of water, with possible spattering. Neutralize run-off with Lime, Soda Ash, etc., to prevent corrosion of metals and formation of Hydrogen gas. Run-off from fire control may cause pollution.

**Fire and Explosion Hazards:** Product may react with some metals (ex.: Aluminum, Zinc, Tin, etc.) To release flammable hydrogen gas. Explosive concentrations of Hydrogen may accumulate inside metal equipment. Heat can cause evolution of gaseous Hydrogen Chloride.

**Hazardous Combustion Products:** Hydrogen Chloride gas. Hydrogen gas

### 6. ACCIDENTAL RELEASE MEASURES

**Spill Clean-Up Procedures:** CORROSIVE MATERIAL. Evacuate unprotected personnel from area. Maintain adequate ventilation. Follow personal protective equipment recommendations found in Section 8. Never exceed any occupational exposure limit. Contain spill, place into drums for proper disposal. Flush remaining area with water and neutralize with Soda Ash or Lime and dispose of properly. Avoid direct discharge to sewers and surface waters. Notify authorities if entry occurs. Keep upwind of leak or spill. Adequate ventilation is required if soda ash

or limestone is used, because of the consequent release of carbon dioxide gas. CAUTION: This product may react violently with alkalis and water

### 7. HANDLING AND STORAGE

Handling: Avoid contact with eyes, skin, and clothing. Use with adequate ventilation. Do not swallow. Avoid breathing vapors, mists, or dust. Do not eat, drink, or smoke in work area. Wash thoroughly after handling.

Storage: CORROSIVE MATERIAL. Store in a cool, well ventilated area, out of direct sunlight. Store in a dry location away from heat. Keep away from incompatible materials. Keep containers tightly closed. Do not store in unlabeled or mislabeled containers. Highly corrosive to most metals with evolution of hydrogen gas.

### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

OSHA Exposure Guidelines: Component  
Hydrogen Chloride

ACGIH Exposure Guidelines: Component  
Hydrogen Chloride

Limits

5 ppm Ceiling; 7 mg/m<sup>3</sup> Ceiling

Limits

2 ppm Ceiling

Engineering Controls: General room ventilation is required. Local exhaust ventilation, process enclosures or other engineering controls may be needed to maintain airborne levels below recommended exposure limits. Avoid creating dust or mist. Maintain adequate ventilation. Do not use in closed or confined spaces. Keep levels below exposure limits. To determine exposure levels, monitoring should be performed regularly.

Eye/Face Protection: Wear chemical safety goggles and a full face shield while handling this product. Do not wear contact lenses.

Skin Protection: Prevent contact with this product. Wear gloves and protective clothing depending on condition of use. Protective gloves: Acid-proof. Gauntlet-type. Neoprene. Polyvinyl chloride. Rubber. Butyl rubber. Nitrile. Teflon (R). Responder (R). Viton (R).

Respiratory Protection: Respiratory protection must be worn if ventilation does not eliminate symptoms or keep levels below recommended exposure limits. If exposure limits are exceeded, wear: NIOSH-Approved air• Purifying respirator with: Acid gas cartridge and HEPA filter. NIOSH-Approved Supplied Air Respirator (SAR). NIOSH-Approved self-contained breathing apparatus. DO NOT exceed limits established by the respirator manufacturer. All respiratory protection programs must comply with OSHA 29 CFR 1910.134 and ANSI 288.2 requirements and must be followed whenever workplace conditions require a respirator's use.

Other Protective Equipment: Eye-wash station. Safety shower. Rubber apron. Rubber boots. Protective clothing. Full-rubber acid suit.

General Hygiene Conditions: Wash with soap and water before meal times and at the end of each work shift.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid.

Color: Clear. Colorless to faint yellow.

Odor: Sharp, pungent, irritating odor.

Boiling Point (deg. F): 183

Freezing Point (deg. F): -51

Melting Point (deg. F): N.D.

Vapor Pressure (mm Hg): 35 @ 25C

Vapor Density(alret): 1.3

Solubility in Water: Complete

pH:< 1

Specific Gravity: 1.6 @ 60F  
 % Volatile (wt. %): N.D.  
 Evaporation Rate (nBuAc= 1): N.D.  
 voe (wt%): 0  
 voe (lbs/gal): 0  
 Viscosity: N.D.  
 Flash Point: None.  
 Flash Point Method: N.A.  
 Lower Explosion Limit: N.A.  
 Upper Explosion Limit: N.A.  
 Auto ignition Temperature: N.A.  
 Fire Point: N.D.

### 10. STABILITY AND REACTIVITY

Stability: Stable under normal conditions

Conditions to Avoid: Avoid contact with water. Avoid heat, sparks or open flames. Avoid direct sunlight. Keep away from incompatibles.

Incompatible Materials: Metals. Oxidizing agents. Alkalies. Bases. Amines. Carbonates. Cyanides. Sulfides. Carbides. Oleum. Perchloric Acid. Metal Oxides. Formaldehyde. Acetylides. Phosphides. Sulfuric acid. Acetic Anhydride. Mercuric Sulfate. Hypochlorites. Sulfites. Esters. Water-reactive materials. Hydroxides.

Hazardous Decomposition Products: Hydrogen chloride gas. Hydrogen gas. Chlorine.

Possibility of Hazardous Reactions: Hazardous polymerization will not occur under normal conditions. Contact with water may cause violent reaction with evolution of heat. To dilute: Add product slowly to lukewarm water; not water to product. May react with certain metals to produce flammable hydrogen gas. Hazardous gases are evolved on contact with chemicals such as cyanides, sulfides, carbides, etc. Contact with oxidizing agents may produce chlorine gas. May react violently with incompatible substances, releasing large amounts of heat.

### 11. TOXICOLOGICAL INFORMATION

Component	Oral LD50	Dermal LD50	Inhalation LC50
No components found or no data available for product.			

### 12. ECOLOGICAL INFORMATION

Eco toxicological Information: HYDROGEN CHLORIDE: Aquatic Toxicity:  
 LC50 Gambelia affine: 282 mg/L 96 h  
 LC50 Goldfish: 178 mg/L (1 to 2 hour survival time) LC50 Bluegill: 3.6 mg/L 48 h  
 LC50 Shrimp: 100-330 mg/L

Additional Ecological Information: This material has exhibited toxicity to terrestrial organisms. May decrease pH of waterways and adversely affect aquatic life.

Chemical Fate Information: HYDROGEN CHLORIDE:

Biodegradation: This material is inorganic and not subject to biodegradation.

Persistence: This material is believed not to persist in the environment. This material is believed to exist in the disassociated state in the environment. If released to soil, hydrogen chloride will sink into the soil. The acid will dissolve some soil material (in particular, anything with a carbonate base) and will be somewhat neutralized. The remaining portion is thought to transport downward to the water table. If released to water, it dissociates almost completely and will be neutralized by natural alkalinity and carbon dioxide.

Bioconcentration: This material is not expected to bioconcentrate in organisms.

### 13. DISPOSAL CONSIDERATION

Disposal Method: Dispose of in a permitted hazardous waste management facility following all local, state and federal regulations. If approved, neutralize material and flush to sewer. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. DO NOT pressurize, cut, weld, solder, drill, grind or expose empty containers to heat, flame, sparks or other sources of ignition. Since emptied containers retain product residue, follow label warnings even after container is emptied.

**14. TRANSPORT INFORMATION**

DOT (Department of Transportation :) Identification Number: UN1789  
 Proper Shipping Name: Hydrochloric Acid  
 Hazard Class: 8  
 Packing Group: II  
 Label Required: CORROSIVE  
 Reportable Quantity (RO): 5000# (Hydrogen Chloride)

**15. REGULATORY INFORMATION**

TSCA Inventory Status: All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements.

SARA Title III Section 311/312 Category Hazards:

Immediate (Acute)	Delayed (Chronic)	Fire Hazard	Pressure Release	Reactive
Yes	Yes	No	No	No

Regulated Components: Component Hydrogen Chloride

CAS Number: 7647-01-0

CERCLA RO Yes

SARA EHS Yes

SARA 313 Yes

U.S. HAP Yes

WI HAP Yes

Prop 65-May Contain the Following Trace Components: Arsenic: 0.5ppm max Lead:1ppm max Benzene: 0.05ppm max

Note: RQ, TPQ, Section 313 reporting requirements are dependent upon individual ingredients. Hydrogen Chloride (gas and aerosol forms only) is on the Extremely Hazardous Substance List. In liquid form, Hydrogen Chloride (Hydrochloric Acid) is not required to be reported as an Extremely Hazardous Substance, but-is subject to SARA 311 and 312 reporting requirements. Hydrochloric Acid also appears on the Section 313 list; however, the listing only applies to the gas and aerosol forms of Hydrochloric Acid.

**ADDITIONAL INFORMATION**

Hazard Rating System Health: 3\* Flammability: 0 Reactivity: 1 \*=Chronic Health Hazard

NFPA Rating System

Health: 3

Flammability: 0

Reactivity: 0

Special Hazard: None

**16. OTHER INFORMATION**

## Notice

Aqua Chemical Supply, Inc. expressly disclaims all express or implied warranties of merchantability and fitness for a particular purpose, with respect to the product or information provided herein, and shall under no circumstances be liable for incidental or consequential damages.

Do not use ingredient information and/or ingredient percentages in this SDS as a product specification. For product specification information refer to a product specification sheet and/or a certificate of analysis. These can be obtained from your local Aqua Chemical Supply, Inc. sales office.

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