

# SAFETY DATA SHEET

**MURIATIC ACID 20 DEG.**

**Product ID: AC002002**

**Revised: 12-07-2015**

**Replaces: 02-27-2014**

## 1. IDENTIFICATION

**Product Identifier:** MURIATIC ACID 20 DEG.  
**Other Identifiers:** Hydrochloric Acid; Hydrogen Chloride  
**CAS Number:** MIXTURE  
**Recommended Use:** Acidification (activation) of petroleum wells, scale removal, ore reduction, metal cleaning, industrial acidification.  
**Restrictions on Use:** No data available.

**Hydrite Chemical Co.**  
**300 N. Patrick Blvd.**  
**Brookfield, WI 53008-0948**  
**(262) 792-1450**

**EMERGENCY RESPONSE NUMBERS:**  
**24 Hour Emergency #: (414) 277-1311**  
**CHEMTREC Emergency #: (800) 424-9300**

## 2. HAZARD(S) IDENTIFICATION

**GHS Classification(s):** Substance or mixture corrosive to metals Category 1  
Skin Corrosion/Irritation Category 1B  
Serious Eye Damage/Eye Irritation Category 1  
Respiratory Sensitisation Category 1  
Specific Target Organ Systemic Toxicity (STOT) - Single Exposure Category 2  
Specific Target Organ Systemic Toxicity (STOT) - Repeated Exposure Category 2  
Acute Toxicity - Inhalation Vapour Category 3  
Acute Toxicity - Inhalation Dust / Mist Category 4  
Acute Toxicity - Oral Category 4

**GHS Label Elements:**

**GHS Hazard Symbols:**



**Signal Word:** Danger

**Hazard Statements:** May be corrosive to metals.  
Harmful if swallowed or if inhaled.  
Causes severe skin burns and eye damage.  
Toxic if inhaled.  
May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
May cause damage to organs (respiratory system by inhalation).  
May cause damage to organs (teeth, respiratory system) through prolonged or repeated exposure (by inhalation).

**Precautionary Statements:**

**Prevention:** Keep only in original container.  
Do not breathe dust/fume/gas/mist/vapours/spray.  
Wash thoroughly after handling.  
Do not eat, drink or smoke when using this product.  
Use only outdoors or in a well-ventilated area.  
Wear protective gloves/protective clothing/eye protection/face protection.  
In case of inadequate ventilation wear respiratory protection.

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**Response:** IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.  
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
Immediately call a POISON CENTER or doctor/physician.  
Specific treatment (see First Aid on SDS or on this label).  
If experiencing respiratory symptoms: Call a POISON CENTER or doctor.  
Wash contaminated clothing before reuse.  
Absorb spillage to prevent material damage.

**Storage:** Store in a well-ventilated place. Keep container tightly closed.  
Store in a secure manner.  
Store in corrosive resistant container with a resistant inner liner.

**Disposal:** Dispose of in accordance with local, regional and international regulations.

**Hazards Not Otherwise Classified:** None known.

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

**Substances/Mixtures:**

<u>Chemical or Common Name/Synonyms</u>	<u>CAS Number</u>	<u>% by Wt.</u>
Hydrogen Chloride	7647-01-0	~ 31.5 %

Note: Any chemical identity and/or exact percentage not expressly stated is being withheld as a trade secret or is due to batch variation.

**4. FIRST-AID MEASURES**

**Description of Necessary Measures:**

**Eye Contact:** If in eyes: 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:** If on skin: 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:** If inhaled: 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 swallowed: 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.

**Most Important Symptoms/Effects, Acute and Delayed:**

**Eye Contact:** CORROSIVE-Causes severe irritation and burns. Liquid or vapor may cause: severe irritation. pain. redness. watering. corneal opacity. burns. tissue destruction. permanent eye damage. blindness.

**Skin Contact:** CORROSIVE-Causes severe irritation and burns. Causes: pain. redness. blistering. swelling. skin damage. scarring. permanent skin damage. death. Mists may cause: irritation. burns.

**Skin Absorption:** No absorption hazard expected under normal use. Less exposure may cause: dermatitis and photo sensitization. Usually penetrates the full thickness of the skin.

**Inhalation:** CORROSIVE-Causes severe irritation and burns. Harmful or fatal if inhaled. Vapors or mists irritate or burn the: nose. throat. upper respiratory tract. May cause: respiratory irritation. bleeding of the nose and gums.

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sore throat. coughing. choking. laryngeal spasms. difficulty breathing. shortness of breath. pulmonary edema. Prolonged exposure may cause: burns and ulcers to the nose and throat. Symptoms of exposure may be delayed by several hours.

**Ingestion:** CORROSIVE-Causes severe irritation and burns. Harmful or fatal if swallowed. Causes burns of the: mouth. throat. esophagus. stomach. Symptoms may include: difficulty swallowing. intense thirst. nausea. vomiting. diarrhea. stomach pain. circulatory collapse. Severe exposures may cause: collapse. death. Aspiration can result in severe lung damage or death.

**Indication of Immediate Medical Attention and Special Treatment Needed:** There is no specific antidote. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient.

### 5. FIRE-FIGHTING MEASURES

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

**Specific Hazards Arising from the Chemical:**

**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. Chlorine. Halogenated compounds.

**Special Protective Equipment and Precautions for Fire-Fighters:** 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 splattering. 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.

### 6. ACCIDENTAL RELEASE MEASURES

**Personal Precautions, Protective Equipment, Emergency 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.

**Methods and Materials for Containment and Clean Up:** Shut off source of leak if safe to do so. 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 alkalies and water.

### 7. HANDLING AND STORAGE

**Precautions for Safe 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. When diluting or preparing solutions, slowly add acid to water to avoid boiling and splattering.

**Conditions for Safe Storage, Including any Incompatibilities:** 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. Store below 120 Deg. F.

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**OSHA Exposure Guidelines:**

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<b>Component</b>	<b>Limits</b>
Hydrogen Chloride	5 ppm Ceiling; 7 mg/m <sup>3</sup> Ceiling

**ACGIH Exposure Guidelines:**

<b>Component</b>	<b>Limits</b>
Hydrogen Chloride	2 ppm Ceiling

**Engineering Controls:** General room ventilation and local exhaust are required. 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.

**Individual Protection Measures:**

**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. 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 Z88.2 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. Good manufacturing practices require gross amounts of any chemical be removed from skin as soon as practical, especially before eating or smoking.

## **9. PHYSICAL AND CHEMICAL PROPERTIES**

**Physical State:** Liquid.

**Color:** Clear. Colorless to faint yellow.

**Odor:** Sharp, pungent, irritating odor.

**Odor Threshold:** N.D.

**pH:** < 1

**Freezing Point (deg. F):** < -35

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

**Initial Boiling Point or Boiling Range:** 176 - 183 °F

**Flash Point:** NONE.

**Flash Point Method:** N.A.

**Evaporation Rate (nBuAc = 1):** N.D.

**Flammability (solid, gas):** N.D.

**Lower Explosion Limit:** N.A.

**Upper Explosion Limit:** N.A.

**Vapor Pressure (mm Hg):** 15-150

**Vapor Density (air=1):** 1.267

**Specific Gravity or Relative Density:** 1.16-1.18

**Solubility in Water:** Complete

**Partition Coefficient (n-octanol/water):** N.D.

**Autoignition Temperature:** N.A.

**Decomposition Temperature:** N.D.

**Viscosity:** N.D.

**% Volatile (wt%):** 100%

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**VOC (wt%): 0**  
**VOC (lbs/gal): 0**  
**Fire Point: N.D.**

**10. STABILITY AND REACTIVITY**

**Reactivity:** No data available.

**Chemical Stability:** Stable under normal conditions.

**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.

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

**Incompatible Materials:** Most metals. Alkalies. Metal Oxides. Amines. Water-reactive substances. Sulfuric acid. Oleum. Acetic Anhydride. Carbonates. Cyanides. Sulfides. Hypochlorites. Sodium. Bases. Formaldehyde. Oxidizing agents. Reducing agents. Perchloric Acid. Potassium permanganate. Aldehydes. Epoxides. Fluorine. Acetylides. Carbides. Chlorosulfonic acid. Propylene oxide. Vinyl acetate. Hexalithium disilicide. Propiolactone.

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

**11. TOXICOLOGICAL INFORMATION**

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

**Symptoms/Effects: Acute, Delayed and Chronic:**

**Eye Contact:** CORROSIVE-Causes severe irritation and burns. Liquid or vapor may cause: severe irritation. pain. redness. watering. corneal opacity. burns. tissue destruction. permanent eye damage. blindness.

**Skin Contact:** CORROSIVE-Causes severe irritation and burns. Causes: pain. redness. blistering. swelling. skin damage. scarring. permanent skin damage. death. Mists may cause: irritation. burns.

**Skin Absorption:** No absorption hazard expected under normal use. Less exposure may cause: dermatitis and photo sensitization. Usually penetrates the full thickness of the skin.

**Inhalation:** CORROSIVE-Causes severe irritation and burns. Harmful or fatal if inhaled. Vapors or mists irritate or burn the: nose. throat. upper respiratory tract. May cause: respiratory irritation. bleeding of the nose and gums. sore throat. coughing. choking. laryngeal spasms. difficulty breathing. shortness of breath. pulmonary edema. Prolonged exposure may cause: burns and ulcers to the nose and throat. Symptoms of exposure may be delayed by several hours.

**Ingestion:** CORROSIVE-Causes severe irritation and burns. Harmful or fatal if swallowed. Causes burns of the: mouth. throat. esophagus. stomach. Symptoms may include: difficulty swallowing. intense thirst. nausea. vomiting. diarrhea. stomach pain. circulatory collapse. Severe exposures may cause: collapse. death. Aspiration can result in severe lung damage or death.

**Numerical Measures of Toxicity:**

<b>Component</b>	<b>Oral LD50</b>	<b>Dermal LD50</b>	<b>Inhalation LC50</b>
Hydrogen Chloride	Rat: 700 mg/kg	Rabbit: > 5010 mg/kg	1H Rat: 4.7 mg/L

**Acute Toxicity Estimate (ATE):**

<b>Oral:</b>	1587 mg/kg
<b>Inhalation Vapor:</b>	9.5238 mg/L
<b>Inhalation Dust/Mist:</b>	4.7619 mg/L

**Cancer Information:**

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This product contains 0.1% or more of the following chemicals listed by NTP, IARC or OSHA as known or possible carcinogens:

Acid mists, strong inorganic

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

**Other:** Contains a material which may cause damage to the upper respiratory tract and the teeth.

**12. ECOLOGICAL INFORMATION**

**Ecotoxicological Information:** Extensive data, call for information.

**Chemical Fate Information:** Extensive data, call for information.

**13. DISPOSAL CONSIDERATIONS**

**Hazardous Waste Number:** D002

**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 (RQ):** 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:**

<u>Immediate (Acute)</u>	<u>Delayed (Chronic)</u>	<u>Fire Hazard</u>	<u>Pressure Release</u>	<u>Reactive</u>				
Yes	Yes	No	No	Yes				
<u>Regulated Components:</u>	<u>CAS</u>	<u>CERCLA</u>	<u>SARA</u>	<u>SARA</u>	<u>U.S.</u>	<u>WI</u>	<u>Prop</u>	
<u>Component</u>	<u>Number</u>	<u>RQ</u>	<u>EHS</u>	<u>313</u>	<u>HAP</u>	<u>HAP</u>	<u>65</u>	
Hydrogen Chloride	7647-01-0	Yes	Yes	Yes	Yes	Yes	No	

**\*Prop 65 - May Contain the Following Trace Components:**

None known.

**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.

<b>16. OTHER INFORMATION</b>
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**Hazard Rating System**

Health: 3\*  
Flammability: 0  
Reactivity: 0  
\* = Chronic Health Hazard

**NFPA Rating System**

Health: 3  
Flammability: 0  
Reactivity: 0  
Special Hazard: None

**SDS Abbreviations**

N.A. = Not Applicable  
N.D. = Not Determined  
HAP = Hazardous Air Pollutant  
VOC = Volatile Organic Compound  
C = Ceiling Limit  
N.E./Not Estab. = Not Established

SDS Prepared by: JAK

Reason for Revision: Changes made throughout the SDS. New format.

Revised: 12-07-2015

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The data in this Safety Data Sheet relates to the specific material designated and does not relate to its use in combination with any other material or process. The data contained is believed to be correct. However, since conditions of use are outside our control it should not be taken as warranty or representation for which HYDRITE CHEMICAL CO. assumes legal responsibility. This information is provided solely for your consideration, investigation, and verification.