

Issue Date 02-Aug-2018

Revision Date 21-Oct-2020

Version 2

## 1. Identification of the Substance / Preparation and of the Company / Undertaking

**Product Name:** CD-9110  
**UN/ID No** UN1789  
**Synonyms:** Muriatic acid  
**Recommended Use** Industrial, Manufacturing or Laboratory use.

### Manufacturer

Anderson Chemical Company, 325 South Davis Avenue, Litchfield, MN 55355 (320-693-2477)

### Emergency Telephone:

CHEMTREC (US): 1-800-424-9300

## 2. Hazards Identification

### GHS - Classification

Acute toxicity - Oral	Category 3
Acute toxicity - Inhalation (Gases)	Category 3
Acute toxicity - Inhalation (Dusts/Mists)	Category 1
Skin corrosion/irritation	Category 1 Sub-category A
Serious eye damage/eye irritation	Category 1
Respiratory sensitization	Category 1A
Specific target organ toxicity (single exposure)	Category 1
Specific target organ toxicity (repeated exposure)	Category 1


**Signal Word:**
**Danger**

### Hazard Statements:

- Toxic if swallowed
- Fatal if inhaled
- Causes severe skin burns and eye damage
- May cause allergy or asthma symptoms or breathing difficulties if inhaled
- Causes damage to organs
- Causes damage to organs through prolonged or repeated exposure

### Physical Hazards

Corrosive to metals	Category 1
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- May be corrosive to metals

### Precautionary Statements:

- Do not breathe dust/fume/gas/mist/vapors/spray
- Avoid breathing dust/fume/gas/mist/vapors/spray
- Wash face, hands and any exposed skin thoroughly after handling
- Do not eat, drink or smoke when using this product
- Use only outdoors or in a well-ventilated area
- Avoid release to the environment
- Wear protective gloves/protective clothing/eye protection/face protection

- Wear respiratory protection
- In case of inadequate ventilation wear respiratory protection
- Store in a well-ventilated place. Keep container tightly closed
- Immediately call a POISON CENTER or doctor/physician
- Call a POISON CENTER or doctor/physician
- Get medical advice/attention if you feel unwell
- Rinse mouth
- Immerse in cool water/wrap in wet bandages
- Wash contaminated clothing before reuse
- Absorb spillage to prevent material damage
- IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
- IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
- IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
- IF INHALED: If breathing is difficult, 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 • IF exposed: Call a POISON CENTER or doctor/physician
- If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician
- Store locked up
- Store in corrosive resistant aluminum container with a resistant inliner
- Dispose of contents/ container to an approved waste disposal plant

### 3. Composition / Information on Ingredients

#### Hazardous

Chemical name	CAS No.	Weight-%	EC No
Hydrochloric acid	7647-01-0	9-11	231-595-7

#### Non-Hazardous

Chemical name	CAS No.	Weight-%	EC No
Water	7732-18-5	Balance	231-791-2

### 4. First Aid Measures

#### Description of first aid measures

<b>General advice</b>	Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.
<b>Inhalation</b>	Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get immediate medical advice/attention. May cause allergic respiratory reaction. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.
<b>Eye contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get immediate medical advice/attention.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get immediate medical advice/attention. May cause an allergic skin reaction.
<b>Ingestion</b>	Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Get immediate medical advice/attention. May produce an allergic reaction.
<b>Self-protection of the first aider</b>	Avoid contact with skin, eyes or clothing. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Use personal protective equipment as required. See section 8 for more information.

#### **Most important symptoms and effects, both acute and delayed**

**Symptoms** Burning sensation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Coughing and/ or wheezing. Itching. Rashes. Hives.

#### **Indication of any immediate medical attention and special treatment needed**

**Note to physicians**

Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure. May cause sensitization in susceptible persons. Treat symptomatically.

**5. Fire-fighting Measures****Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Large Fire**

CAUTION: Use of water spray when fighting fire may be inefficient.

**Unsuitable extinguishing media**

Do not scatter spilled material with high pressure water streams.

**Specific hazards arising from the chemical**

The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors. Product is or contains a sensitizer. May cause sensitization by inhalation and skin contact.

**Explosion Data**

**Sensitivity to mechanical impact** None.

**Sensitivity to static discharge** None.

**Special protective equipment for fire-fighters**

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

**6. Accidental Release Measures****Personal precautions, protective equipment and emergency procedures****Personal precautions**

Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Attention! Corrosive material. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

**Other information**

Refer to protective measures listed in Sections 7 and 8.

**Methods and material for containment and cleaning up****Methods for containment**

Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up**

Pick up and transfer to properly labeled containers.

**7. Handling and Storage****Precautions for safe handling****Advice on safe handling**

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Provide extract ventilation to points where emissions occur. Remove contaminated clothing and shoes.

**Conditions for safe storage, including any incompatibilities****Storage Conditions**

Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from moisture. Store locked up. Keep out of the reach of children. Store away from other materials.

**8. Exposure Controls / Personal Protection****Control parameters****Exposure Limits**

The following ingredients are the only ingredients of the product above the cut-off level (or level that contributes to the hazard classification of the mixture) which have an exposure limit applicable in the region for which this safety data sheet is intended or other recommended limit. At this time, the other relevant constituents have no known exposure limits from the sources listed here.

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Hydrochloric acid 7647-01-0	Ceiling: 2 ppm	5 ppm Ceiling 5 ppm Ceiling 7 mg/m <sup>3</sup> Ceiling 7 mg/m <sup>3</sup> Ceiling	IDLH: 50 ppm Ceiling: 5 ppm Ceiling: 7 mg/m <sup>3</sup>

**Exposure Guidelines** Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

**Appropriate engineering controls**

**Engineering controls** Showers  
Eyewash stations  
Ventilation systems.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection** Face protection shield.  
**Hand protection** Wear suitable gloves. Impervious gloves.

**Skin and body protection** Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron.  
**Respiratory protection** No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

**General hygiene considerations** Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Wash hands before breaks and immediately after handling the product.

**9. Physical and Chemical Properties**

**9.1. Information on basic physical and chemical properties**

<b>Physical State:</b>	Liquid	<b>Odor:</b>	Pungent
<b>Appearance:</b>	Aqueous solution	<b>Odor Threshold:</b>	No information available
<b>Color:</b>	Clear Colorless		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>pH:</b>	0	
<b>"Salt Out" Point (°F):</b>		No information available
<b>Melting Point/Freezing Point:</b>	-15 °C / 5 °F	
<b>Boiling Point/Boiling Range:</b>	100 °C / 212 °F	
<b>Flash Point:</b>		No information available
<b>Evaporation Rate (BuAc=1):</b>		No information available
<b>Flammability (solid, gas):</b>		No information available
<b>Flammability Limits in Air:</b>		No information available
<b>Upper Flammability Limit:</b>		<b>Lower Flammability Limit:</b>
<b>Vapor Pressure (mm Hg) :</b>		No information available
<b>Vapor density (Air =1)</b>		No information available
<b>Specific Gravity (H<sub>2</sub>O=1):</b>		No information available
<b>Specific Gravity (2nd value):</b>		No information available
<b>Water Solubility:</b>	100% soluble in water	
<b>Solubility(ies):</b>		No information available
<b>Partition Coefficient (n-octanol/water)</b>		No information available
<b>Autoignition Temperature:</b>		
<b>Decomposition Temperature:</b>		No information available
<b>Kinematic Viscosity:</b>		No information available
<b>Dynamic Viscosity:</b>		No information available
<b>Oxidizing Properties:</b>	No information available	
<b>Explosive Properties:</b>	Not considered to be an explosion hazard	

**9.2. Other information**

<b>Softening Point:</b>	No information available
<b>Molecular Weight:</b>	36.46
<b>VOC Content(%):</b>	No information available
<b>Liquid Density</b>	1.05
<b>Bulk density</b>	No information available
<b>% Volatiles by Volume @ 21°C (70°F):</b>	100

**10. Stability and Reactivity**

<b>Reactivity</b>	No information available.
<b>Chemical stability</b>	Stable under normal conditions.
<b>Possibility of hazardous reactions</b>	None under normal processing.
<b>Conditions to avoid</b>	Exposure to air or moisture over prolonged periods.
<b>Incompatible Materials</b>	Oxidizing agent. Acids. Bases.
<b>Hazardous decomposition products</b>	Thermal decomposition can lead to release of irritating and toxic gases and vapors.

**11. Toxicological Information****Information on likely routes of exposure****Product Information**

<b>Inhalation</b>	Specific test data for the substance or mixture is not available. Corrosive by inhalation. (based on components). Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal. May cause sensitization in susceptible persons.
<b>Eye contact</b>	Specific test data for the substance or mixture is not available. Causes burns. (based on components). Corrosive to the eyes and may cause severe damage including blindness. Causes serious eye damage. May cause irreversible damage to eyes.
<b>Skin contact</b>	Specific test data for the substance or mixture is not available. May cause irritation. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. (based on components).
<b>Ingestion</b>	Specific test data for the substance or mixture is not available. Causes burns. (based on components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways. May cause additional affects as listed under "Inhalation".

**Symptoms related to the physical, chemical and toxicological characteristics**

<b>Symptoms</b>	Redness. Burning. May cause blindness. Coughing and/ or wheezing. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain, or flushing.
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**Numerical measures of toxicity**

No information available

**Acute Toxicity:**

The following values are calculated based on chapter 3.1 of the GHS document .

<b>ATEmix (oral)</b>	2,380.00 mg/kg
<b>ATEmix (dermal)</b>	50,150.10 mg/kg
<b>ATEmix (inhalation-gas)</b>	7,000.00 ppm
<b>ATEmix (inhalation-dust/mist)</b>	0.50 mg/l

**Unknown Acute toxicity** 10 % of the mixture consists of ingredient(s) of unknown toxicity

0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

0 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

10 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)

0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

**Component Information**

Chemical name	Oral LD <sub>50</sub> :	Dermal LD <sub>50</sub> :	LC <sub>50</sub> (Lethal Concentration):
Hydrochloric acid 7647-01-0	238 - 277 mg/kg ( Rat )	> 5010 mg/kg ( Rabbit )	= 1.68 mg/L ( Rat ) 1 h
Water 7732-18-5	> 90 mL/kg ( Rat )	-	-

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

<b>Skin corrosion/irritation</b>	May cause skin irritation.
<b>Serious eye damage/eye irritation</b>	Classification based on data available for ingredients. Causes burns. Risk of serious damage to eyes.
<b>Respiratory or skin sensitization</b>	May cause sensitization by inhalation.
<b>Germ cell mutagenicity</b>	No information available.
<b>Carcinogenicity</b>	No information available.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	ACGIH	IARC	NTP	OSHA
Hydrochloric acid 7647-01-0	-	3	-	-

<b>Reproductive toxicity</b>	No information available.
<b>STOT - single exposure</b>	Based on the classification criteria of the Globally Harmonized System as adopted in the country or region with which this safety data sheet complies, this product has been determined to cause systemic target organ toxicity from acute exposure. (STOT SE). Causes damage to organs if swallowed.
<b>STOT - repeated exposure</b>	Causes damage to organs through prolonged or repeated exposure.
<b>Target Organ Effects:</b>	Respiratory system, Eyes, Skin.
<b>Other Adverse Effects:</b>	No information available.
<b>Aspiration hazard</b>	No information available.

**12. Ecological Information****Ecotoxicity**

Chemical name	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia and other aquatic invertebrates
Hydrochloric acid 7647-01-0	-	282: 96 h Gambusia affinis mg/L LC50 static	-	-

<b>Persistence and Degradability:</b>	No information available.
<b>Bioaccumulation:</b>	There is no data for this product.
<b>Other Adverse Effects:</b>	No information available.

**13. Disposal Considerations****Waste treatment methods**

<b>Waste from residues/unused products</b>	Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.
<b>Contaminated packaging</b>	Do not reuse empty containers.
<b>US EPA Waste Number</b>	D002.

**14. Transport Information****DOT**

Proper shipping name      HYDROCHLORIC ACID

<b>Hazard Class</b>	8
<b>UN/ID No</b>	UN1789
<b>Packing Group</b>	II
<b>Description</b>	UN1789, HYDROCHLORIC ACID, 8, PG II



## 15. Regulatory Information

### International Inventories

All of the components in the product are on the following inventory lists: TSCA (United States);, Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Australia (AICS), South Korea (KECL);, China (IECSC), ENCS (Japan);, Philippines (PICCS), This product contains a substance not listed on international inventories - it is for research and development use only.

<b>AICS</b>	Complies
<b>TSCA</b>	Complies
<b>DSL/NDSL</b>	Complies
<b>EINECS/ELINCS</b>	Complies
<b>ENCS</b>	-
<b>IECSC</b>	Complies
<b>KECL</b>	Complies
<b>PICCS</b>	Complies

Chemical name	AICS	TSCA	DSL	NDSL	EINECS	ELINCS	ENCS	IECSC	KECL	PICCS
Hydrochloric acid	Listed	Listed	Listed	-	Listed	-	(1)-215	Listed	KE-20189	Present
Water	Listed	Listed	Listed	-	Listed	-	-	Listed	KE-35400	Present

### Inventory Legend

**AICS** - Australian Inventory of Chemical Substances  
**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List  
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances  
**ENCS** - Japan Existing and New Chemical Substances  
**IECSC** - China Inventory of Existing Chemical Substances  
**KECL** - Korean Existing and Evaluated Chemical Substances  
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**RESTRICTIONS - REACH TITLE VII** No information available

### US Federal Regulations

#### CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	SARA Extremely Hazardous Substances TPQ
Hydrochloric acid	5000 lb	5000 lb EPCRA RQ (gas only)	500 lb TPQ

#### SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical name	SARA 313 - Percent by weight

Hydrochloric acid	9.0-11.9%
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**SARA 311/312 Hazard Categories**

Acute Toxicity - Inhalation Oral  
Acute Toxicity - Inhalation (Dusts/Mists)  
Acute Toxicity - Inhalation (Gases)  
Skin Corrosion/Irritation  
Serious Eye damage/irritation  
Respiratory Sensitization  
Specific target organ toxicity (single exposure)  
Specific target organ toxicity (repeated exposure)

**U.S. State Right-to-Know Regulations****California Proposition 65:**

This product does not contain any Proposition 65 chemicals

**16. Other Information****National Fire Protection Association (NFPA) Ratings**

**Prepared By:** lmt  
**Issue Date:** 02-Aug-2018  
**Revision Date:** 21-Oct-2020

**Disclaimer:**

PLEASE BE ADVISED THAT IT IS YOUR RESPONSIBILITY TO INFORM YOUR EMPLOYEES OF THE HAZARDS OF THIS SUBSTANCE, TO ADVISE THEM OF WHAT THESE PROPERTIES MEAN AND BE SURE THEY UNDERSTAND EXPOSURE INFORMATION. THE INFORMATION PROVIDED IN THIS SAFETY DATA SHEET IS CORRECT TO THE BEST OF OUR KNOWLEDGE, INFORMATION AND BELIEF AT THE DATE OF ITS PUBLICATION.

THE INFORMATION PRESENTED HEREIN, WHILE NOT GUARANTEED, WAS PREPARED BY COMPETENT TECHNICAL PERSONNEL AND IS TRUE AND ACCURATE TO THE BEST OF OUR KNOWLEDGE. NO WARRANTY OR GUARANTY, EXPRESS OR IMPLIED, IS MADE REGARDING PERFORMANCE, STABILITY, OR OTHERWISE. THIS INFORMATION IS NOT INTENDED TO BE ALL-INCLUSIVE AS TO THE MANNER AND CONDITIONS OF USE, HANDLING, AND STORAGE. OTHER FACTORS MAY REQUIRE ADDITIONAL SAFETY OR PERFORMANCE CONSIDERATIONS. WHILE OUR TECHNICAL PERSONNEL WILL BE HAPPY TO RESPOND TO QUESTIONS REGARDING SAFE HANDLING AND USE PROCEDURES, THE HANDLING AND USE REMAINS THE RESPONSIBILITY OF THE CONSUMER. NO SUGGESTIONS ARE INTENDED AS, AND SHOULD NOT BE CONSTRUCTED AS, A RECOMMENDATION TO INFRINGE ON ANY EXISTING PATENTS OR TO VIOLATE ANY FEDERAL, STATE, OR LOCAL LAWS.

**End of Safety Data Sheet**