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(This SDS follows the GHS format)

# HYDROCHLORIC ACID

(32% by volume)

**SDS NUMBER:** KCC – HCL - 001

**SDS DATE:** January 22, 2019

**24 HOUR EMERGENCY PHONE NUMBER:** **(973) 589-0700**  
Alt. (551) 200-2751  
CHEMTREC – (800) 424-9300

## SECTION 1 – CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** Hydrochloric Acid

**Chemical Name:** Hydrochloric Acid

**CAS Number:** 7647-01-0

**Common Names:** Hydrogen Chloride, Muriatic Acid, Chlorohydric Acid

**Chemical Formula:** HCl

**Company:** Kuehne Chemical Company, Inc.  
86 North Hackensack Avenue  
South Kearny, New Jersey 07032-4673  
(973) 589-0700 Fax: (973) 589-4866

**Manufacturer:** Kuehne Chemical Company, Inc.  
86 North Hackensack Avenue  
South Kearny, New Jersey 07032-4673  
(973) 589-0700 Fax: (973) 589-4866



## SECTION 2 – HAZARD(S) IDENTIFICATION

### Category 1

**Symbol:**



**Signal Word:** Danger

**Hazard Statements:** May be corrosive to metals  
Causes severe skin burns and eye damage  
Causes severe eye damage  
May cause respiratory irritation  
Harmful if swallowed

#### HMIS HAZARD RATINGS

HEALTH	3
FLAMMABILITY	0
PHYSICAL HAZARD	2
PERSONAL PROTECTION	

Based on Nat'l Paint & Coatings Association HMIS system.

#### NFPA HAZARD RATINGS



Chemical not listed. Ratings based on NFPA guidelines

### Effects of Exposure

**Acute:** Inhalation – Symptoms include burning, choking, coughing, wheezing, laryngitis, shortness of breath, headache or nausea. May cause chemical burns to the respiratory tract, leading to sore throat, coughing, shortness of breath and delayed lung edema. High concentrations may cause damage to mucous membranes and lungs, causes corrosive action of the mucous membranes. Exposure to the mist and vapor may erode exposed teeth.

Eyes – Symptoms include eye burns, watering eyes. Permanent damage to cornea may result, forms corneal burns with dangers of vision impairment or blindness. Corrosive to eyes, contact can cause corneal burns and result in permanent irreversible injury. Contact may cause painful sensitization to light. Liquid contact is corrosive to the eyes and causes severe burns. Vapor or mist may cause irritation and severe burns.

**Skin** – Symptoms include burning, itching, redness, inflammation and/or swelling of exposed tissues. Harmful if absorbed through skin, forms blisters, ulceration and chemical burns to the skin. Contact may cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material. Liquid contact is corrosive and causes severe burns and ulceration. Vapor causes severe irritation and may cause burns at high concentrations.

**Ingestion** – Symptoms include burning, choking, nausea, vomiting and severe pain. May cause chemical burns to the mouth, gullet and gastrointestinal tract, severe swelling, severe damage to the delicate tissue and danger of perforation, diarrhea, and permanent tissue destruction to the gastrointestinal tract, can cause itching, cough and chemical burns to the respiratory tract, circulatory system failure and possible death.

**Precautionary Statements:****Prevention:**

Use only outdoors or in a well ventilated area  
Avoid breathing dust/fume/gas/mist/vapors/spray  
Wash hands thoroughly after handling  
Wear protective gloves/protective clothing/eye protection/face protection.  
Keep only in original container.  
Immediately call a POISON CENTER or doctor/physician

**Response:**

If Inhaled - Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
If Swallowed - Rinse mouth. Don NOT induce vomiting.  
If In Eyes - Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice/attention.  
If On Skin (or hair) - Remove immediately all contaminated clothing. Wash contaminated clothing before re-use. Rinse skin with water/shower. Immediately call a poison center or doctor/physician.  
Spill - Absorb spillage to prevent material damage.

**Storage:**

Store in a well ventilated place. Keep container tightly closed. Store locked up. Store in corrosive resistant polypropylene container with a resistant inner liner. Store in a dry place

**Disposal:**

Dispose of contents/container to an approved waste disposal plant and in accordance with applicable local, state, and federal regulations.

**Chronic:** Repeated exposure may affect liver or cause bleeding of nose and gums, nasal and oral mucosal ulceration, conjunctivitis, yellowing of teeth and erosion of tooth enamel, dermatitis, photosensitization and possible blindness.

**Appearance:** Clear, colorless to slightly or pale yellow liquid

**Routes of Entry**

**Inhalation:** May cause chemical burns to the respiratory tract, leading to sore throat, coughing, shortness of breath and delayed lung edema. High concentrations may cause damage to mucous membranes and lungs, causes corrosive action of the mucous membranes. Exposure to the mist and vapor may erode exposed teeth.

**Eye Contact:** Corrosive to eyes, contact can cause corneal burns and result in permanent irreversible injury. Contact may cause painful sensitization to light. Liquid contact is corrosive to the eyes and causes severe burns. Vapor or mist may cause irritation and severe burns.

**Skin:** Contact may cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material. Liquid contact is corrosive and causes severe burns and ulceration. Vapor causes severe irritation and may cause burns at high concentrations.

**Ingestion:** Swallowing can result in nausea, vomiting, diarrhea, abdominal pain and permanent tissue destruction to the gastrointestinal tract, circulatory system failure and possible death.

**Target Organs:** Mucous membranes, Skin, Eyes and Cardiovascular System

Single exposure – Respiratory system

Repeated exposure – Kidney, liver

**Sensitizing Capabilities:** None known.

**Reproductive Effects:** None known.

**Cancer Information:** None known.

**Synergistic Materials:** None known.

**Medical Conditions Aggravated by Exposure:** None known.

**SECTION 3 – COMPOSITION AND INFORMATION ON INGREDIENTS****CAS Number****Name****Common Names**

**Percentage**

VOL: ND  
WT: 68%

**Exposure Limits**

PEL: Not Established  
TLV: Not Established  
STEL: Not Established  
IDLH: Not Established

**CAS Number**

7647-01-0

**Name**

Hydrogen Chloride

**Common Names**

Hydrochloric Acid, Muriatic Acid

**Percentage**

VOL: ND  
WT: 32%

**Exposure Limits**

PEL: 5 ppm Ceiling  
TLV: 2 ppm  
STEL: 5 ppm  
IDLH: 50 ppm

**SECTION 4 – FIRST AID MEASURES**

- Inhalation:** Move to fresh air. Keep Patient warm and comfortable. Remove contaminated clothing and loosen remaining clothing. In case of shortness of breath, give oxygen. Apply artificial respiration only if patient is not breathing. No mouth to mouth or mouth to nose resuscitation. **SEEK MEDICAL ATTENTION IMMEDIATELY.**
- Eyes:** Irrigate eyes extensively (at least 30 minutes). Remove contact lenses, if present and easy to do. Continue rinsing. Do NOT allow victim to rub or keep eyes closed. Do NOT use oils or ointments in eye. **SEEK MEDICAL ATTENTION IMMEDIATELY.**
- Skin:** Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Treat corrosive burns on the skin as thermal burns. **SEEK MEDICAL ATTENTION IMMEDIATELY.**
- Ingestion:** If victim is conscious and alert, rinse mouth with plenty of water and give 2-4 glasses of milk or water. Use of gastric lavage or emesis is contraindicated. Do not induce vomiting. In case of spontaneous vomiting, be sure that vomit can freely drain because of danger of suffocation. Keep patient warm and at rest, in case of shortness of breath, give oxygen. **SEEK MEDICAL ATTENTION IMMEDIATELY.**

**SECTION 4 – FIRST AID MEASURES**

(Continued)

**Note to Physician**

Treat symptomatically. Treat corrosive burns on the skin as thermal burns. Do NOT use sodium bicarbonate to neutralize the acid. Do NOT use oils or ointments in eye. Airway problems may arise from laryngeal edema and inhalation exposure. Treat with 100% oxygen initially. Possible perforation of stomach or esophagus should be investigated.



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## SECTION 5 – FIRE-FIGHTING MEASURES

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<b>Flash Point:</b>	Non-Flammable
<b>Auto-ignition Temperature:</b>	Non-Flammable
<b>Flammable Limits in Air - % by Volume - Upper:</b>	Non-Flammable
<b>Lower:</b>	Non-Flammable
<b>Sensitivity to Mechanical Impact:</b>	Not sensitive
<b>Sensitivity to Static Discharge:</b>	Not sensitive

### **Extinguishing Media**

Non-Flammable/ Non-Combustible, if involved in a fire use:

Regular dry chemical, carbon dioxide, fine water spray, regular foam, dry agent (carbon dioxide, dry chemical powder)

Do not use a high volume jet.

### **Fire Fighting Procedures**

Material can react violently with water (spattering and misting). Do not breathe fumes, decomposes on heating emitting toxic fumes, fight fire from safe location. Wear self-contained breathing apparatus and acid-resistant clothing, including eye protection and boots. Containers close to fire should be removed immediately or cooled with water, keep away from common metals. Do not allow contaminated extinguishing water to enter the soil, groundwater or surface waters.

### **Fire and Explosion Hazard**

Thermal decomposition releases toxic and corrosive gas (Hydrogen chloride, Chlorine). Reaction with metal (Aluminum, Tin, Lead, and Zinc) produces flammable/explosive hydrogen gas. Heating can cause expansion or decomposition leading to violent rupture of containers.







**Other:** Always wash hands with mild soap and water before smoking, eating, drinking, using the toilet, and when leaving work. Promptly remove contaminated clothing. Wash contaminated clothing and other protective equipment before storage or re-use. Have supplies and equipment for neutralization and running water available.

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**SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES**


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<b>Physical State:</b>	Liquid, fuming	
<b>Appearance:</b>	Clear, colorless to slightly or pale yellow liquid	
<b>Odor:</b>	Strong, pungent, irritating acidic	
<b>Odor Threshold:</b>	1-5 ppm	
<b>pH:</b>	< 1, strong acid	
<b>Freezing/Melting Point:</b>	-35 °C (-31 °F)	
<b>Boiling Point:</b>	81.5-110 °C	
<b>Flash Point:</b>	Not applicable	
<b>Evaporation Rate:</b>	2.00	( <i>n</i> -butyl acetate=1)
<b>Flammability:</b>	Not applicable	
<b>Explosive Limits:</b>	Not applicable	
<b>Vapor Pressure:</b>	35 mmHg, 125 mbar, 160 mmHg, 15 mmHg at 20 °C	
<b>Vapor Density:</b>	1.267	(air = 1)
<b>Specific Gravity:</b>	1.1885 at 20 °C	(H <sub>2</sub> O = 1)
<b>Solubility in Water:</b>	Completely soluble.	
<b>Partition Coefficient:</b> n-octanol/water	No Data	
<b>Auto-ignition:</b>	Not applicable	

<b>Decomposition:</b>	Not available
<b>Viscosity:</b>	1.7 mm <sup>2</sup> /s at 20 °C
<b>Molecular Weight:</b>	36.46

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**SECTION 10 – STABILITY AND REACTIVITY**

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**Conditions Contributing to Instability**

Stable under normal conditions. Corrosive to many metals with the liberation of extremely flammable hydrogen gas.

Reactivity: Mildly reactive, reacts with alkalis. Reacts with oxidizing agents and sodium hypochlorite liberating toxic chlorine gas. Exothermic reaction with incompatible materials.

Stable under recommended storage conditions.

Avoid mechanical shock, extremes of temperature and direct sunlight, exposure to moist air or water. Uncontrolled addition of water. Excess heat, reaction with water is exothermic.

**Incompatibility**

Incompatible with strong bases and alkalis, strong oxidizing agents, sodium hypochlorite, cyanides, and many metals, avoid contact with foodstuffs, carbonates and other alkaline materials, salts of oxyhalogenic acids, semimetallic hydrogen compounds, and semimetallic oxide.

**Reacts With:** Acetic anhydride, Aldehydes, Alkanolamines, Amines, Azides, Carbides, Chlorates, Copper, Fluorine, Hydrides, Hydroxides, Isocyanates, Metal oxides, Moisture, Nitrates, Nitrites, Organic material, Perchlorates, Permanganate, Peroxides, Phosphorus, Picrates, Sulfides, Sulfites, Sulfuric acid, Water, Water-reactive materials, Vinylmethyl ether, Zinc iodide

**Hazardous Decomposition Products:** Carbon dioxide, Carbon monoxide, Chlorine gas, Hydrogen chloride gas, Hydrogen gas. Contact with metals may evolve flammable hydrogen gas.

**Hazardous Polymerization:** Will not occur.



**Persistence:** Evaporates into atmosphere, dissolves in water and is neutralized slowly by natural alkalinity.

**Bio concentration:** This material is not expected to bio concentrate in organisms.

In high concentrations, this product may be dangerous to plants and/or wildlife. Prevent contamination of soil, drains or surface water, use appropriate containment method to avoid environmental contamination. Do not empty into drains. This product is fatal to aquatic life due to pH shift.

This material is expected to have high mobility in soil. It absorbs weakly to most soil types. Upon transport through the soil, hydrochloric acid will dissolve some of the soil materials (especially those with carbonate bases) and the acid will neutralize to some degree.

Acidic substance leading to a lower pH, however, pH will increase rather quickly because of dilution until an ecological neutral product is obtained.

## SECTION 13 – DISPOSAL CONSIDERATIONS

### Waste Disposal Method

Empty containers must be decontaminated. Dispose of in accordance with all government and local regulations. Refer to Waste Management Authority. Dispose of material through a licensed waste contractor. Decontamination and destruction of containers should be considered. Dispose in accordance with all applicable Federal, State and Local regulations.

### Product Disposal

If discarded, this product is considered a RCRA corrosive waste, D002.

## SECTION 14 – TRANSPORT INFORMATION

<b>DOT Proper Shipping Name:</b>	Hydrochloric Acid
<b>DOT Hazard Class:</b>	8 (Corrosive)
<b>DOT ID Number:</b>	UN1789
<b>DOT Packing Group:</b>	II



**DOT Hazardous Substance:** RQ 5,000 Lb. (Hydrochloric Acid)

**DOT Marine Pollutant:** Not Applicable

**Additional Description:** Not Applicable

### **Marine Transport**

Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea; DANGEROUS GOODS.

### **Air Transport**

Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air; DANGEROUS GOODS.

## **SECTION 15 – REGULATORY INFORMATION**

### **U.S. 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, safety data sheets, training and access to written records.

To aid our customers in complying with regulatory requirements, SARA Title III Hazard Categories for this product are indicated below. If the word "YES" appears next to any category, this product may be reportable by you under the requirements of 40.CFR.370. Please consult those regulations for details.

**TSCA (Toxic Substances Control Act):** All components of this product that are required to be on the TSCA inventory are listed on the inventory.

### **CERCLA and SARA/Title III:**

Hazard Categories	Immediate (Acute) Health:	YES
	Reactive Hazard:	YES
	Delayed (Chronic) Health:	NO
	Fire Hazard:	NO
	Sudden Release of Pressure:	NO

### **Other Regulations/Standards**

California Proposition 65: This product does not contain any Proposition 65 chemicals



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## SECTION 16 – OTHER INFORMATION

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### SDS Legend:

ACGIH	American Conference of Governmental Industrial Hygienists
CAS	Chemical Abstracts Service Registry Number
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CEILING	Ceiling Limit (15 Minutes)
DOT	U.S. Department of Transportation
IARC	International Agency for Research on Cancer
IDLH	Immediately dangerous to life and health
N/A	Not Available
NIOSH	The National Institute for Occupational Safety and Health
NTP	National Toxicology Program
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit (OSHA)
ppm	Parts per million
RCRA	Resource Conservation and Recovery Act
REL	Recommended Exposure Limit
SARA	Superfund Amendments and Reauthorization Act
STEL	Short Term Exposure Limit (15 Minutes)
TLV	Threshold Limit Value (ACGIH)
TSCA	Toxic Substances Control Act
TWA	Time Weighted Average (8 Hours)

**Prepared By:** Kuehne Company's Environmental, Safety & Security Department  
Revision 0 – 26 September 2017

The information contained herein is offered only as a guide to the handling of this specific material and has been prepared in good faith by technically knowledgeable personnel. It is not intended to be all-inclusive and the manner and conditions of use and handling may involve other and additional considerations. No warranty of any kind is given or implied and Kuehne Chemical Company, Inc. will not be liable for any damages, losses, injuries or consequential damages that may result from the use of or reliance on any information contained herein.

### REFERENCES:

- American National Standard, Z400.1-1993
- Pamphlet 150 Recommended Practices for Handling Hydrochloric Acid in Cargo Tanks Edition 3 April 2014
- Pamphlet 163 Hydrochloric Acid Storage and Piping Systems Edition 3 October 2011
- National Institute for Occupational Safety and Health, US Dept. of Health & Human Services, Cincinnati, 1994.
- Supplier's Safety Data Sheets
- Windholz, Martha, Ed, The Merck Index, 11<sup>th</sup> ed., Merck and Co, Inc., Rahway, New Jersey, 1989.

