

1. Identification

Product identifier	Hydrochloric acid
Other means of identification	Not available.
Recommended use	Hydrochloric acid is used as a neutralizing agent and as a chemical reagent in the large-scale production of other chemicals.
Recommended restrictions	None known.

Manufacturer/Importer/Supplier/Distributor information

Company name	Alexander Chemical Corporation
Address	7593 S. First Road, Kingsbury Industrial Park, Kingsbury, Indiana 46345, USA
Website	www.alexanderchemical.com
Fax	219-393-5364
Toll Free	(800) 348-8827
	For Hazardous Materials [or Dangerous Goods] Incidents ONLY (spill, leak, fire, exposure or accident), call CHEMTREC at
Emergency telephone number	CHEMTREC®, USA: 001 (800) 424-9300 CHEMTREC®, Mexico (Toll-Free - must be dialed within country): 001-800-13-203-9987CHEMTREC®, Other countries: 001 (703) 527-388

2. Hazard(s) identification

Physical hazards	Corrosive to metals	Category 1
Health Hazards	Skin corrosion/irritation	Category 1
	Serious eye damage/eye irritation	Category 1
	Specific Target Organ Toxicity, Single Exposure	Category 3 respiratory tract irritation
	Not classified.	

OSHA defined hazards

Label elements



Signal word	Danger
Hazard statement	Causes severe skin burns and eye damage. May be corrosive to metals. May cause respiratory irritation.

Precautionary statement

Prevention

Keep only in original container. Do not breathe mist or vapor. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection.

Response

If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep 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/doctor. Wash contaminated clothing before reuse. Absorb spillage to prevent material damage.

Storage

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

Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC)

None known.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Hydrochloric acid	7647-01-0	31-37

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

Inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

Skin contact

Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.

Eye contact

Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

Ingestion

Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

Most important symptoms/effects, acute and delayed

Burning pain and severe corrosive skin damage. Irritation of nose and throat. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation. Coughing.

Indication of immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.

General information

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media

Water fog. Foam. Dry chemical powder. Carbon dioxide (CO₂).

Unsuitable extinguishing media

Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical

Hydrogen chloride gas.

Special protective equipment and precautions for firefighters

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions

Move containers from fire area if you can do so without risk.

Specific methods

Use standard firefighting procedures and consider the hazards of other involved materials.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

This product is miscible in water. Should not be released into the environment.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb spillage to prevent material damage. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Environmental precautions

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Do not breathe mist or vapor. Do not get in eyes, on skin, or on clothing. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. Store in a cool, dry place out of direct sunlight. Store in corrosive resistant container with a resistant inner liner. Keep only in the original container. Refrigeration recommended. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Hydrochloric acid (CAS 7647-01-0)	Ceiling	7 mg/m ³
		5 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
Hydrochloric acid (CAS 7647-01-0)	Ceiling	2 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Hydrochloric acid (CAS 7647-01-0)	Ceiling	7 mg/m ³
		5 ppm

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection

Chemical respirator with organic vapor cartridge and full facepiece.

Skin protection

Hand protection

Wear appropriate chemical resistant gloves. Neoprene or butyl rubber gloves are recommended. Suitable gloves can be recommended by the glove supplier. Be aware that the liquid may penetrate the gloves. Frequent change is advisable.

Other

Wear appropriate chemical resistant clothing.

Respiratory protection

Chemical respirator with organic vapor cartridge and full facepiece.

Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state	Liquid.
Form	Liquid.
Color	Colorless.
Odor	Pungent. Hydrogen chloride gas.
Odor threshold	Not available.
pH	< 1
Melting point/freezing point	Not available.
Initial boiling point and boiling range	144 - 183
Flash point	Not available
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	17 mm Hg
Vapor density	Not available.
Relative density	1.16 - 1.18
Solubility(ies)	
Solubility (water)	Completely soluble in water.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.

10. Stability and reactivity

Reactivity	Reacts violently with strong alkaline substances. This product may react with reducing agents. May be corrosive to metals.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Avoid temperatures exceeding the flash point. Do not mix with other chemicals. Contact with incompatible materials.
Incompatible materials	Bases. Strong oxidizing agents. Reducing agents. Metals. Amines.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause irritation to the respiratory system.
Skin contact	Causes severe skin burns.
Eye contact	Causes serious eye damage.

Ingestion	Causes digestive tract burns.		
Symptoms related to the physical, chemical and toxicological characteristics	Burning pain and severe corrosive skin damage. Irritation of nose and throat. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation. Coughing.		
Information on toxicological effects			
Acute toxicity	May cause respiratory irritation.		
Components	Species	Test Results	
Hydrochloric acid (CAS 7647-01-0)			
Acute			
Inhalation			
LC50	Rat	3124 mg/l, 1 Hours	
Oral			
LD50	Rabbit	900 mg/kg	
Skin corrosion/irritation	Causes severe skin burns and eye damage.		
Serious eye damage/eye irritation	Causes serious eye damage.		
Respiratory or skin sensitization			
Respiratory sensitization	Not available.		
Skin sensitization	This product is not expected to cause skin sensitization.		
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.		
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.		
IARC Monographs. Overall Evaluation of Carcinogenicity			
Hydrochloric acid (CAS 7647-01-0)		3 Not classifiable as to carcinogenicity to humans.	
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)			
Not listed.			
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.		
Specific target organ toxicity - single exposure	May cause respiratory irritation.		
Specific target organ toxicity - repeated exposure	Not classified.		
Aspiration hazard	Not available.		
12. Ecological information			
Ecotoxicity	Because of the low pH of this product, it would be expected to produce significant ecotoxicity upon exposure to aquatic organisms and aquatic systems.		
Components	Species	Test Results	
Hydrochloric acid (CAS 7647-01-0)			
Aquatic			
Fish	LC50	Western mosquitofish (Gambusia affinis)	282 mg/l, 96 hours
Persistence and degradability	No data is available on the degradability of this product.		
Bioaccumulative potential	No data available.		
Mobility in soil	No data available.		
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.		
13. Disposal considerations			
Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Dispose of contents/container in accordance with local/regional/national/international regulations.		
Local disposal regulations	Dispose in accordance with all applicable regulations.		
Hazardous waste code	D002: Waste Corrosive material [pH <=2 or >=12.5, or corrosive to steel] The waste code should be assigned in discussion between the user, the producer and the waste disposal company.		

Waste from residues / unused products	Dispose of in accordance with local regulations.
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT	
UN number	UN1789
UN proper shipping name	Hydrochloric acid
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Label(s)	8
Packing group	II
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	A3, A6, B3, B15, IB2, N41, T8, TP2, TP12
Packaging exceptions	154
Packaging non bulk	202
Packaging bulk	242
IATA	
UN number	UN1789
UN proper shipping name	Hydrochloric acid
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Label(s) Packing	8
group Environmental	II
hazards ERG Code	No. 8L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
IMDG	
UN number	UN1789
UN proper shipping name	HYDROCHLORIC ACID
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Label(s) Packing	8
group Environmental	II
hazards	
Marine pollutant	No.
EmS	F-A, S-B
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	This product is a liquid and when transported in bulk is covered under MARPOL 73/78 Annex II. This product is listed in the IBC Code. Ship type: 3 Pollution category: Z

15. Regulatory information

US federal regulations	This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory List.
TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)	Not regulated.
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)	Not listed.
CERCLA Hazardous Substance List (40 CFR 302.4)	
Hydrochloric acid (CAS 7647-01-0)	LISTED

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
 Immediate Hazard - Yes
 Delayed Hazard - No
 Fire Hazard - No
 Pressure Hazard - No
 Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Chemical name	CAS number	Reportable quantity	Threshold planning quantity	Threshold planning quantity, lower value	Threshold planning quantity, upper value
Hydrochloric acid	7647-01-0	5000	500 lbs		

SARA 311/312 Hazardous chemical
 Yes

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Hydrochloric acid	7647-01-0	31-37

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Hydrochloric acid (CAS 7647-01-0)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Hydrochloric acid (CAS 7647-01-0)

Safe Drinking Water Act (SDWA)
 Not regulated.

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number

Hydrochloric acid (CAS 7647-01-0) 6545

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

Hydrochloric acid (CAS 7647-01-0) 20 %WV

DEA Exempt Chemical Mixtures Code Number

Hydrochloric acid (CAS 7647-01-0) 6545

US state regulations**US. Massachusetts RTK - Substance List**

Hydrochloric acid (CAS 7647-01-0)

US. New Jersey Worker and Community Right-to-Know Act

Hydrochloric acid (CAS 7647-01-0)

US. Pennsylvania Worker and Community Right-to-Know Law

Hydrochloric acid (CAS 7647-01-0)

US. Rhode Island RTK

Hydrochloric acid (CAS 7647-01-0)

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 31-October-2014

Revision date 10-12-2020

Version # 02

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