

Safety Data Sheet

1. IDENTIFICATION

Hydrochloric Acid

Use: pH Adjuster/Oxidizing Agent
Company: Chemical Research Products Industrial Sales Incorporated

475 J.P Rizal St.,

Mahabang Parang, Sta. Maria, Bulacan

Telephone No.: (044) 703 6998

Website: www.chemicalresearchph.com

Emergency Information

Chemical Research Technical Tel. No.: (02) 687-6541

2. HAZARD(S) IDENTIFICATION

GHS Classification: GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)
Metal corrosive (Category 1), H290
Special target organ toxicity – single exposure, (Category 3), Respiratory H335
Skin corrosion (Category 1B), H314
Serious eye damage (Category 1), H318

Label Element:



Signal Word: **Danger**

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

Precautionary Statements

- Prevention:** Keep away from heat. Keep/Store away from clothing and other combustible materials. Take any precaution to avoid mixing with combustibles. Use only outdoors or in a well-ventilated area. Do not breathe mist or vapor. Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Do not eat, drink or smoke when using this product. Avoid release to the environment
- Response:** In case of fire: Use water for extinction. If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If inhaled: Remove person to fresh air and keep comfortable for breathing. Immediately call a poison center/doctor. If exposed: Call a poison center/doctor. Collect spillage.
- Storage:** Store in corrosive resistant stainless-steel container with a resistant inner liner. Store locked up. Store in a well-ventilated place. Keep container tightly closed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS No.	Percentage
Hydrochloric Acid	(7647-01-0)	30% - 35%
Water	(7732-18-5)	Balance

4. FIRST-AID MEASURES

- Eyes:** Immediately flush with plenty of lukewarm water for up to 20 minutes. Remove any contact lenses and open eyelids wide apart. Continue rinsing. Take care not to raise contaminated water into affected eye. Get medical attention immediately.
- Skin:** Take off immediately all contaminated clothing. Immediately flush skin with plenty of water. Wash contaminated clothing before reuse.
- Ingestion:** Never give anything by mouth if victim is rapidly losing consciousness, or if unconscious or convulsing. Have victim rinse mouth thorough with water. Have victim drink one cup (240-300ml 8-10 oz) to dilute material in stomach. Do not induce vomiting. If vomiting occurs naturally, rinse mouth and repeat administration of water. If breathing has stopped, trained personnel should begin artificial respiration or, if the heart has stopped cardiopulmonary resuscitation (CPR) immediately. Get medical attention immediately.

Inhalation: Remove source of contamination or move victim to fresh air. If breathing has stopped, trained personnel should begin artificial respiration or, if the heart has stopped start CPR (cardiopulmonary resuscitation). Get medical attention immediately.

5. FIRE-FIGHTING MEASURES

Extinguishing Media: Regular dry chemical, carbon dioxide, fine water spray, regular foam.
Exposure Hazard: Nonflammable but is decomposed by heat and light, causing a pressure build-up resulting to explosion. When heated, it may release chlorine gas or hydrochloric acid. Reaction with oxidizable or organic materials may result in fire
Protective Equipment: Wear full protective clothing and self-contained breathing apparatus exposed to vapors or products of combustion.
Advice for Firefighters: Self-contained breathing apparatus and full protective clothing must be worn in case of fire. Move containers from the fire area if you can do so without risk. Use water spray to cool adjacent fire exposed containers. Product will not burn but may splatter if temperature exceeds boiling point.

6. ACCIDENTAL RELEASE MEASURES

Personal Precaution: Wear respiratory protection. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.
Environmental Precaution: Cover the drains to prevent the product from entering the environment. If product contaminates rivers and lakes or drains inform respective authorities.
Clean up Methods: Shut off the source of the leak if conditions are safe. Absorb in dry sand or earth and place into containers for proper disposal. Neutralize with sodium sulphite, bisulfite or thiosulfate, and then flush with plenty of water. Do not use combustible materials, such as saw dust. Do not use sulphates or bisulphates for spill neutralizing.

7. HANDLING and STORAGE

Handling: Wear appropriate personal protective equipment. Do not get in eyes, on skin, on clothing. Do not breathe mist or vapor. Observe good industrial hygiene practices. Do not empty into drains. Use caution when combining with water; DO NOT add water to acid, ALWAYS add acid to water while stirring to prevent release of heat, steam and fumes.
Storage: Keep container tightly closed in a dry and well-ventilated place. May corrode metallic surfaces. Store in a metallic or coated fiberboard drum using a strong polyethylene

inner package. Corrosive materials should be stored in a separate safety storage cabinet or room.

Incompatible

Materials:

Alkalis, metals, oxidizing agents, Mercuric sulphate, Perchloric acid, Carbides of calcium, cesium, rubidium, Acetylides of cesium and rubidium, Phosphides of calcium and uranium, Lithium silicide

8. EXPOSURE CONTROL/PERSONAL PROTECTION

Personal Protection:

RUBBER BOOTS, GLOVES, APRON, FACE SHIELD and RESPIRATOR. Personal protective equipment (PPE) must be suitable for the nature of the work and any hazard associated with the work as identified by the risk assessment conducted. Wear rubber boots, gloves, apron, face shield. Available information suggests that gloves made from nitrile rubber should be suitable for intermittent contact. However, due to variations in glove construction and local conditions, the user should make a final assessment. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.

Respiratory Protection:

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU)

Eye Protection:

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU)

Skin Protection:

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Other Personal Protection

Data:

Complete suit protecting against chemicals, the type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene Measures:

Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL and CHEMICAL PROPERTIES

Physical State:	Liquid
Appearance:	Clear, greenish-yellow color
Odor:	Pungent, chlorine-like odor
Odor threshold:	0.3ppm (can cause olfactory fatigue)
pH:	<1 (in aqueous solution)
Specific gravity:	1.150 – 1.170
Melting point/freezing point:	-30°C (-22°F)
Boiling point:	>100°C (>212°F)
Vapor Pressure:	84 mm Hg @ 20°C
Vapor Density:	1.267 at 20 °C (air=1)
Water solubility:	Soluble

10. STABILITY and REACTIVITY

Conditions to Avoid:	Excess heat, metals, bases and incompatible materials.
Chemical Stability:	Hydrochloric acid is stable under normal conditions and pressures.
Materials to Avoid:	Acetate, acetic anhydride, alcohols + hydrogen cyanide, 2-aminoethanol, ammonium hydroxide, calcium carbide, calcium phosphide, cesium acetylene carbide, cesium carbide, chlorosulfonic acid, 1,1-difluoroethylene, ethylene diamine, ethyleneimine, fluorine, lithium silicide, magnesium boride, mercuric sulfate, oleum, perchloric acid, potassium permanganate, b-propiolactone, propylene oxide, rubidium acetylene carbide, rubidium carbide, silver perchlorate + carbon tetrachloride, sodium, sodium hydroxide, sulfuric acid, uranium phosphide, vinyl acetate. Substance polymerizes on contact with aldehydes or epoxides. Reacts with most common metals to produce hydrogen. Amines, metal oxides, acetic anhydride, formaldehyde, alkalies, carbonates, strong bases, nitric acid, oxidizing agents, cyanides, sulphides, fluorides, phosphides, acetylides, bromides, carbides, silicides.
Hazardous Decomposition:	Hydrogen chloride, chlorine, hydrogen gas

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:

Inhalation:	Vapors and mist will irritate throat and respiratory system and cause coughing.
Skin contact:	Causes skin burns.
Eye contact:	Causes eye burns.
Ingestion:	Harmful if swallowed. Causes digestive tract burns. Ingestion may produce burns to the lips, oral cavity, upper airway, esophagus and possibly the digestive tract.

Symptoms related to the physical, chemical and toxicological characteristics:

Contact with this material will cause burns to the skin, eyes and mucous membranes. Permanent eye damage including blindness could result.

Information on toxicological effects:

Acute toxicity:	Harmful if swallowed.
Skin corrosion/irritation:	Causes severe skin burns and eye damage.
Irritation:	Causes serious eye damage.
Respiratory sensitization:	Not available.
Skin sensitization:	No data available.
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.
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:	No data available. Aspiration hazard: Not available.
Chronic effects:	Prolonged inhalation may be harmful.

Components Species Test Results:

Hydrochloric acid (CAS# 7647-01-0)

Rat - Inhalation LC50: 3124 ppm, (1 hour)

Rabbit - Dermal LD50: 5010 mg/kg

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.
Aquatic Toxicity:	This material is toxic to fish and aquatic organisms. Most aquatic species do not tolerate pH lower than 5.5 for any extended period.
Fish Toxicity:	Fish LC ₅₀ Mosquito fish: 282 mg/l, 96 hours Fish LC ₅₀ Bluegill: 3.6 mg/l, 48 hours
Persistence and Degradability:	Not biodegradable. Hydrochloric acid will likely be neutralized to chloride by alkalinity present in natural environment.
Bioaccumulative potential:	No data available.
Mobility in the soil:	Hydrochloric acid will be neutralized by naturally occurring alkalinity. The acid will permeate soil, dissolving some soil material and will then neutralize.

Other adverse effects:

No other adverse environmental effects (e.g., ozone depletion, photochemical ozone creation).

13. DISPOSAL CONSIDERATION

- Disposal of wastes:** Consult appropriate Federal, State/Provincial and local regulatory authorities to ascertain proper disposal procedures. Care should be taken not to mix waste Sodium Hypochlorite with incompatible material. Sodium Hypochlorite should be dissolved in water and the available chlorine should be treated using a reducing agent.
- Contaminated Packaging:** Since empty containers retain product residue, follow label warnings even after container is emptied.
- Clean up:** Do not touch spilled material. Prevent material from entering sewers or confined place. Shovel into clean, dry, labeled containers. Flush area with water. Contaminated materials may be dissolved in water, then treated with a reducing agent such as sodium sulfite. Care should be taken while handling contaminated material due to fire risk.

14. TRANSPORT INFORMATION

ROAD AND RAIL TRANSPORT

Classified as Dangerous Goods by the criteria of the "Australian Code for the Transport of Dangerous Goods by Road & Rail" and the "New Zealand NZS5433: Transport of Dangerous Goods on Land".

UN No: 1789
Dangerous Goods Class: 8
Packing Group: II
Hazard Identification no: 80
Emergency Response Guide No: 37
Proper Shipping Name: HYDROCHLORIC ACID

MARINE TRANSPORT

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

UN No: 1789
Dangerous Goods Class: 8
Packing Group: II

Proper Shipping Name: HYDROCHLORIC ACID

AIR TRANSPORT

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

UN No: 1789

Dangerous Goods Class: 8

Packing Group: II

Proper Shipping Name: HYDROCHLORIC ACID

15. REGULATORY INFORMATION

SARA 302 Components

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

The following components are subject to reporting levels established by SARA Title III, Section 313:
Hydrochloric Acid CAS#: 7647-01-0

SARA 311/312 Hazards

Acute health hazard, reactive hazard.

Massachusetts Right to Know Components

Hydrochloric Acid CAS#: 7647-01-0

Pennsylvania Right to Know Components

Hydrochloric Acid CAS#: 7647-01-0

New Jersey Right to Know Components

Hydrochloric Acid CAS#: 7647-01-0

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects or any other reproductive harm.

OSHA PSM/RMP Threshold for Accidental Release:

CAS# 7647-01-0 is regulated under OSHA PSM only if anhydrous HCl.

CAS# 7647-01-0 is regulated under EPA RMP only if > 37% HCl.

Toxic Substances Control Act (TSCA):

Hydrochloric Acid CAS#: 7647-01-0

Comprehensive Environmental Response Compensation Liability Act: (CERCLA)

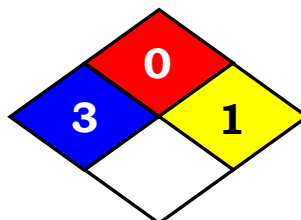
Hydrochloric Acid CAS#: 7647-01-0

16. OTHER INFORMATION

HMIS

HEALTH	3
FLAMMABILITY	0
REACTIVITY	1
PERSONAL PROTECTION	X

NFPA



Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe

Risk phrases:

- R31 : Contact with acids liberates toxic gas.
R34 : Causes burns.
R37 : Irritating to respiratory system.
R41 : Serious damage to eyes.

Safety phrases:

- S2 : Keep out of the reach of children.
S24/25 : Avoid contact with skin and eyes.
S26 : In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S28 : After contact with skin, wash immediately with plenty of water.
S36/37/39 : Wear suitable protective clothing, gloves and eye / face protection.
S45 : In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Precautionary phrases: Danger!

Do not use together with other products. May release dangerous gases (chlorine).

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained

herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to our products. Customers/users of this product must comply with all applicable health and safety laws, regulations, and orders.