

# SAFETY DATA SHEET

**SECTION 1: PRODUCT AND COMPANY IDENTIFICATION**

## Hydrochloric Acid, 31 – 36.7%

**Product Name:** Hydrochloric Acid, 31 – 36.7%

**Identified Uses:** acid etching, steel pickling, oil and gas, ore and mineral, food processing, pharmaceutical, organic chemical synthesis

**Company Information:**

ASHTA Chemicals Inc.

P.O. Box 858

Ashtabula Ohio 44005

**Phone:** (440) 997-5221

**Fax:** (440) 998-0286

**24-hour Emergency Phone:** CHEMTREC: (800) 424-9300

**SECTION 2: HAZARDS IDENTIFICATION**

**GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**

**GHS label elements, including precautionary statements:**

Signal Word: **Danger**

Pictogram(s):



| <b>Hazard Statements</b>        |   |
|---------------------------------|---|
| H290                            | May be corrosive to metals.   |
| H314                            | Causes severe skin burns and eye damage.  |
| H318                            | Causes serious eye damage.  |
| H335                            | May cause respiratory irritation.   |
| <b>Precautionary Statements</b> |   |
| P234                            | Keep only in original container.  |
| P261                            | Avoid breathing dust/ fume/ mist/ vapors/ spray.  |
| P264                            | Wash skin thoroughly after handling.  |
| P271                            | Use only outdoors or in a well-ventilated area.   |
| P280                            | Wear protective gloves/ protective clothing/ eye protection/ face protection.                               |
| P301 + P330 + P331              | IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  |
| P303 + P361 + P353              | IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water. Shower. |



|                           |   |
|---------------------------|---|
| P304 + P340 + P310        | IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/ physician.                                 |
| P305 + P351 + P338 + P310 | 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. |
| P363                      | Wash contaminated clothing before reuse.  |
| P390                      | Absorb spillage to prevent material damage.   |
| P403 + P233               | Store in a well-ventilated place. Keep container with a resistant inner liner.  |
| P405                      | Store locked up.  |
| P406                      | Store in corrosive resistant stainless steel container with a resistant inner liner.  |
| P501                      | Dispose of contents/ container to an approved waste disposal plant.   |

**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**

**Synonyms:**

CHEMICAL NAME: Hydrochloric acid  
TRADE NAME: Hydrochloric acid, 31 – 36.7%  
SYNONYMS: Muriatic acid, Chlorohydric acid, Hydrogen Chloride

C.A.S: 7647-01-0  
EC: 231-595-7  
WHMIS: D2A, E

CHEMICAL FORMULA: HCl (in aqueous solution)  
CHEMICAL FAMILY: Inorganic Acid

**SECTION 4 FIRST AID MEASURES**

**Description of first aid measures:**

Consult a physician. Show this safety data sheet to the doctor in attendance.

**If inhaled**

If breathed in, move person into fresh air. If not breathing, give artificial respiration. If breathing is difficult, give humidified air. Give oxygen, but only by a certified physician. Consult a physician.

**In case of skin contact**

Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash off with soap and plenty of water. Consult a physician.

**In case of eye contact**

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Remove contact lenses if present and easy to do. Continue rinsing eyes during transport to medical facility.

**If swallowed**

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth thoroughly with water. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Consult a physician.



**SECTION 5 FIRE FIGHTING MEASURES**

|                                   |   |
|-----------------------------------|---|
| Flash Point (Method):             | Non-combustible.  |
| Extinguishing Media:              | Use extinguishing agents compatible with acid and appropriate for the burning material. Use water spray to keep fire-exposed containers cool.   |
| Auto Ignition Temp:               | Non-combustible.  |
| Special Fire Fighting Procedures: | Wear self-contained breathing apparatus and full protective clothing. In case of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of other involved materials. |
| Unusual Fire/Explosion Hazards:   | Releases flammable hydrogen gas when reacting with metals.  |

**SECTION 6 ACCIDENTAL RELEASE MEASURES**

**Environmental Precautions:**

Use closed systems when possible. Provide local exhaust ventilation where vapor or mist may be generated. Avoid discharge into drains, water courses or onto the ground.

**Containment and Cleaning:**

Follow preplanned emergency procedures. Only properly equipped, trained, functional personnel should attempt to contain a leak. All other personnel should be evacuated from the danger area. Using full protective equipment, apply appropriate emergency device or other securement technology to stop the leak if possible.

|              |   |
|--------------|---|
| Small Spill: | Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. If necessary: neutralize the residue with a dilute solution of sodium carbonate.   |
| Large Spill: | Corrosive liquid. Stop leak if without risk. Do not touch spilled material. Use water spray curtain to knock down vapor drift. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Neutralize the residue with a dilute solution of sodium carbonate. Be careful that vapor is not present at a concentration level above TLV. |

**SECTION 7: HANDLING AND STORAGE**

**Precautions to be taken for handling and storage:**

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. Store in a well-ventilated place. Store away from incompatible materials. Store closed containers in a clean, cool, open or well ventilated area. Keep out of sun.

**SECTION 8: EXPOSURE CONTROL/PERSONAL PROTECTION**

**Principal Component:** Hydrochloric Acid

**Occupational Exposure Limits:**

Regulatory Limits:

| Component                 | OSHA Final PEL TWA | OSHA Final PEL STEL | OSHA Final PEL Ceiling          |
|---------------------------|--------------------|---------------------|---------------------------------|
| Hydrochloric Acid Mixture | ---                | ---                 | 5 ppm<br>7.59 mg/m <sup>3</sup> |

ACGIH TLV = 5 ppm (7.59 mg/m<sup>3</sup>) TWA

NIOSH IDLH = 50 ppm (as HCl, 2010)

**Exposure Controls:**

Eye Protection:

Tightly fitting safety goggles. Face shield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Respiratory Protection:

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type ABEK (EN 14387) 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).

Other Protection:

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.

Ventilation Recommended:

Exhaust ventilation is required to meet PEL limits.

Glove Type Recommended:

Wear neoprene, nitrile, butyl rubber or PVC gloves to prevent exposure.

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

Information on basic physical and chemical properties:

|                              |                                      |
|------------------------------|--------------------------------------|
| Appearance                   | Colorless to light yellow liquid     |
| Odor                         | Pungent (irritating/strong)          |
| Odor Threshold               | 0.3ppm (can cause olfactory fatigue) |
| pH                           | <1 (in aqueous solution)             |
| Melting point/freezing point | -30°C (-22°F)                        |
| Initial boiling point        | >100°C (>212°F)                      |
| Flash point                  | Not applicable                       |
| Auto-ignition Temp           | Not applicable                       |
| Evaporation rate             | No data available                    |



|  |  |
|--|--|
| Decomposition temperature                    | No data available  |
| Flammability (solid, gas)                    | Not combustible  |
| Upper/lower flammability or explosive limits | Not combustible  |
| Water solubility                             | 100%   |
| Molecular Weight                             | 36.46  |
| Relative Density (Specific Gravity)          | 1.16 (32% HCl solution)<br>1.19 (36.5% HCl solution)                 |
| Bulk Density                                 | 8.75 lbs/gal (32% HCl solution)<br>9.83 lbs/gal (36.5% HCl solution) |
| Vapor Density (air = 1)                      | 1.267 at 20 °C   |
| Vapor Pressure                               | 84 mm Hg @ 20°C  |
| Partition Coefficient: n-octanol/water       | No data available  |

**SECTION 10: STABILITY AND REACTIVITY**

- Stability: Hydrochloric acid is stable under normal conditions and pressures.
- Conditions to avoid: Incompatible materials, metals, excess heat, bases.
- Incompatibility: Bases, amines, metals, permanganates, (e.g. potassium permanganate), fluorine, metal acetylides, hexalithium disilicide.
- Hazardous decomposition products: Hydrogen chloride, chlorine, hydrogen gas.
- Polymerization: Hazardous polymerization WILL NOT occur.

**SECTION 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.
- Serious eye damage/eye 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 LC <sub>50</sub> : | 3124 ppm, (1 hour) |
| Rabbit - Dermal LD <sub>50</sub> :  | 5010 mg/kg         |

**SECTION 12: ECOLOGICAL INFORMATION**

|                                |   |
|--------------------------------|---|
| Ecotoxicity:                   | Because of the low pH of this product, it would be expected 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 <sub>50</sub> Mosquito fish: 282 mg/l, 96 hours<br>Fish LC <sub>50</sub> 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 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)   |

**SECTION 13: DISPOSAL CONSIDERATIONS**

Collect and reclaim or dispose in sealed containers at a properly licensed waste disposal site. This material , if not neutralized, must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national or international regulations.



**SECTION 14: TRANSPORT INFORMATION**

**Shipping:**

Usual Shipping Containers: Tank cars, bulk tankers.  
Usual Shelf Life: Indefinite (life of containers).  
Storage/Transport Temperatures: Ambient.

**Suitable Storage:**

Materials/Coatings: Teflon, Tygon, Rubber, PVC and polypropylene materials.

**D.O.T. Information:**

Labeling: Corrosive  
D.O.T. Identification Number: UN 1789  
D.O.T. Shipping Name: Hydrochloric Acid  
Hazard Class: 8  
Packing Group: II  
Hazard Guide: 157  
Placard: UN 1789

**SECTION 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 TPQ:**

CAS# 7647-01-0 is regulated under OSHA PSM *only* if anhydrous or >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

**SECTION 16**

**OTHER INFORMATION**

**NFPA Rating:**

Health hazard: 3

Fire Hazard: 0

Reactivity Hazard: 1

This information is drawn from recognized sources believed to be reliable. ASHTA Chemicals, Inc. Makes no guarantees or assumes any liability in connection with this information. The user should be aware of changing technology, research, regulations, and analytical procedures that may require changes herein. The above data is supplied upon the condition that persons will evaluate this information and then determine its suitability for their use. Only U.S.A regulations apply to the above.

|             |                              |
|-------------|------------------------------|
| Version 1.0 | For the new GHS SDS Standard |
| Version 1.1 | Graphics updated             |
| Version 1.2 | Title updated                |
| Version 1.3 | Section 9 changes            |

|                           |
|---------------------------|
| Revision Date: 12/31/2014 |
| Revision Date: 3/9/2015   |
| Revision Date: 6/2/2015   |
| Revision Date: 7/30/2015  |