



Formosa Plastics Corporation, U.S.A.  
**Material Safety Data Sheet**

**1. PRODUCT IDENTIFICATION**

**Product Name:** Hydrochloric Acid 32%, 35%  
**Synonyms:** Muriatic Acid  
**Manufacturer:** Formosa Plastics Corp., Texas  
201 Formosa Drive  
Point Comfort, TX 77978  
**Telephone:** +1 (361) 987-7000  
**Fax:** +1 (361) 987-2363  
**E-Mail:** MSDS@fpcusa.com  
**Emergency Contact:** CHEMTREC (24 hrs) at +1 (800) 424-9300 (United States, Canada, Puerto Rico, Virgin Islands) or +1 (202) 483-7616 (Other Countries)  
**Product Code:** HCL2  
**Product Use:** Various industrial uses.  
**Physical Description:** Clear to light yellow liquid  
**Formula:** HCl

**2. HAZARD IDENTIFICATION**

**Emergency Overview:**  
**DANGER!**

- Causes severe skin burns and eye damage.
- May cause respiratory irritation.
- Onset of symptoms may be delayed following exposure.



**3. PRODUCT INGREDIENTS**

Components	Percent (%)
<b>Hydrochloric Acid</b>	32-35
CAS Number:	7647-01-0
GHS Classification:	Corrosive 1B, STOT-SE 3; H314, H335
<b>Water</b>	Balance
CAS Number:	7732-18-5
GHS Classification:	Not considered hazardous according to GHS criteria.

**4. FIRST AID MEASURES**

**Eye Contact:** Immediately flush eyes with water for at least 15 minutes. Hold eyelids open to ensure adequate flushing. Get immediate medical attention.



**Skin Contact:** Remove contaminated clothing and shoes. Wash affected skin area with soap and water. Get immediate medical attention.

**Inhalation:** Remove to fresh air. Get immediate medical attention.

**Ingestion:** If ingested, dilute swallowed material by drinking water. DO NOT INDUCE VOMITING. Never give anything by mouth to an unconscious person. Get immediate medical attention.

**Other Instructions:** Rescue personnel must wear appropriate protective equipment during removal of victims from contaminated areas. Treat symptomatically and supportively.

**5. FIRE-FIGHTING MEASURES**

**Flash Point:** Not applicable  
**Autoignition Temperature:** Not applicable

**Flammable Limits, in Air:**  
LEL (%): Not applicable  
UEL (%): Not applicable



**Extinguishing Media:** Dry chemical, foam, water or carbon dioxide.

**Special Fire Fighting Procedure:** In the event of a fire, wear a NIOSH (US) or CEN (EU) approved, positive pressure, self-contained breathing apparatus (SCBA) and full protective clothing. Evacuate all non-essential personnel from the danger area.

**Unusual Fire and Explosion Hazards:** Contact with metals may release flammable hydrogen gas. May react vigorously with bases and organic materials.

**Hazardous Combustion Products** Carbon monoxide, carbon dioxide, hydrogen chloride, chlorine gas and other irritating and harmful gases and fumes.

**6. ACCIDENTAL RELEASE MEASURES**

**Personal Precautions:** Restrict access to keep out unauthorized or unprotected personnel. Stay upwind of spilled material. Wear appropriate personal protective equipment during all clean-up activities. Avoid inhalation and direct contact.

**Environmental Precautions:** Keep spilled material away from sewage/drainage systems and waterways. This product contains a U.S. EPA Reportable Quantity (RQ) substance. If amounts exceeding the Reportable Quantity are released, notification of the National Response Center (800) 424-8802 is required. See Section 15 for more information.

**Methods for Clean-Up:** All clean-up personnel must be properly trained. Confine the spill and remove incompatible materials and ignition sources. Ensure adequate ventilation. Secure the source of the leak if conditions are safe. Neutralize spill and collect using an appropriate absorbent material such as clay or vermiculite. Place waste in an appropriate container for disposal. Use care during clean-up to avoid exposure to the material and injury from broken containers.



**7. HANDLING AND STORAGE**

**Handling:** Use with adequate ventilation. Wear proper personal protective equipment. Do not mix with water or bases without dilution and agitation.

**Storage:** Store in closed, properly labeled containers. Protect containers from heat, physical damage, ignition sources and incompatible materials. Have emergency equipment for fires and spills readily available.

**8. EXPOSURE CONTROLS & PERSONAL PROTECTION**

**Eye Protection:** Wear chemical splash goggles or face shield.

**Skin Protection:** Minimize contact with product. Wear chemical resistant coveralls, boots, gloves, apron and/or suitable long-sleeved clothing. Consult protective equipment manufacturer for chemical resistance information.

**Respiratory Protection:** An industrial hygiene risk assessment is required to determine the appropriate respiratory protection. A NIOSH (US) or CEN (EU) approved full-face, air-purifying cartridge respirator may be appropriate under limited exposure conditions. Wear an approved supplied air respirator if there is a potential for an uncontrolled release, exposure levels are not known, or in other circumstances where air-purifying respirators may not provide adequate protection.

**Engineering Controls:** Ensure adequate ventilation. Emergency eyewash and safety shower facilities should be available in the immediate work area.

**Required Work/Hygiene Procedure:** Wash hands thoroughly after handling. Do not eat, drink or smoke in work area. If unusual exposures are expected, an industrial hygiene review of work practices, engineering controls and personal protective equipment is recommended.

**Exposure Guidelines:**

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ACGIH TLV-Ceiling:	2 ppm
OSHA PEL-Ceiling:	5 ppm
NIOSH IDLH:	50 ppm

**9. PHYSICAL / CHEMICAL PROPERTIES**

**Physical Form:** Liquid

**Color:** Clear to light yellow

**Odor:** Pungent, irritating

**Molecular Weight:** 36.5

**Boiling Point:** 183 °F (84 °C)

**Melting Point:** -51 °F (-46°C)

**Solubility in Water:** Soluble

**Specific Gravity:** 1.16 (*water = 1*)

**Vapor Density:** 1.3 (*air = 1*)

**Evaporation Rate:** > 1 (*butyl acetate =1*)

**Vapor Pressure:** 35 mmHg @ 20 °C

**pH:** 1



The physical data included above are typical values and should not be construed as a specification.

### 10. STABILITY & REACTIVITY

- Stability:** Stable under recommended storage conditions.
- Conditions to Avoid:** Keep away from strong bases, organic materials, and powdered metals.
- Hazardous Decomposition:** Contact with metals may release flammable hydrogen gas. May react vigorously with bases and organic materials.
- Hazardous Polymerization:** Not expected to occur.

### 11. TOXICOLOGY INFORMATION

- Primary Route(s) of Exposure:** Eye, skin contact, inhalation
- Potential Health Effects:**
- Eye Contact: Causes severe eye damage.
- Skin Contact: Causes skin burns. Onset of symptoms may be delayed following exposure.
- Inhalation: Corrosive to respiratory tract.
- Ingestion: May be harmful if swallowed. Ingestion may cause chemical burns, pain, vomiting, difficulty breathing and other gastrointestinal effects.
- Carcinogenicity:** The components of this product are not classified as carcinogenic by OSHA, NTP or IARC.
- Medical Conditions Aggravated by Overexposure:** Asthma and other respiratory conditions, skin disorders.

#### Toxicological Data:

- Oral LD50 (Rat): 900 mg/kg
- Inhalation LC50 (Rat): 3124 ppm (1 hour)

### 12. ECOLOGICAL INFORMATION

#### Ecotoxicological Data:

- 96 hr LC50 (Mosquito Fish): 282 mg/L
- Biodegradability: Hydrochloric acid dissociates in water and may be neutralized by naturally occurring buffering agents.

### 13. DISPOSAL CONSIDERATIONS

- Disposal Method:** This product must be disposed of in accordance with Federal, state and local environmental regulations. Discarded materials may be considered hazardous waste due to pH/corrosivity.
- It is the responsibility of the product user to determine at the time of disposal whether a material containing, or derived from, this product should be classified as hazardous waste.



**14. TRANSPORTATION INFORMATION**

Proper Shipping Name: Hydrochloric Acid  
Hazard Label: Corrosive  
Hazard Class: 8  
UN/NA Number: UN 1789  
Packing Group: II  
EPA Reportable Quantity (RQ): 5000 lbs. (hydrochloric acid)  
Marine Pollutant: Not listed  
Emergency Response Guide: 157

**15. REGULATORY INFORMATION**

**U.N. GHS Classification & Labeling Information:**

Classification: Corrosive 1B  
Specific Target Organ Toxicity (STOT)  
- Single Exposure 3



Signal Word: DANGER

H Statements: H314: Causes severe skin burns and eye damage.  
H335: May cause respiratory irritation.

P Statements: P307+315: If exposed, get immediate medical attention.  
P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
P280: Wear protective gloves/protective clothing/eye protection/face protection.  
P264: Wash thoroughly after handling.  
P273: Avoid release into the environment.

**NFPA 704 Information:**

Health Rating: 3  
Flammability Rating: 0  
Reactivity Rating: 1  
Other Hazards: CORROSIVE



**U.S. Federal Regulatory Information:**

EPA Clean Air Act: Listed as Hazardous Air Pollutant  
EPA Clean Water Act: Listed  
TSCA: The ingredients of this product are listed on TSCA inventory (40 CFR 710).  
RCRA: This product as supplied is a D002 (corrosive) waste.  
CERCLA RQ: 5000 lbs. (hydrochloric acid)  
SARA Title III § 302: None  
SARA Title III § 311/312: Acute Health Hazard  
SARA Title III § 313: Listed



**European Union Regulatory Information:**

DSD/DPD Risk (R) Phrases: R34: Causes severe burns

DSD/DPD Hazard Symbol: C: Corrosive



DSD/DPD Safety (S) Phrases: S18: Handle and open containers with care.  
S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
S37/39: Wear suitable gloves and eye/face protection.  
S61: Avoid release to the environment.  
S62: If swallowed, do not induce vomiting.  
S64: If swallowed, rinse mouth with water if victim is conscious.

**Canadian Regulatory Information:**

WHMIS Category: Class E Corrosive Material  
Ingredient Disclosure List: Listed  
Domestic Substances List (DSL): Listed



**16. OTHER INFORMATION**

**European Union Compliance:** This MSDS conforms to regulations 1907/2006/EC (REACH). This product has been classified in accordance with 67/548/EEC, 1999/45/EC, 1272/2008 (CLP) and amendments.

**Prepared By:** Formosa Plastics Corporation USA  
Corporate Environment, Safety & Communications Department

**Revision History:** The March 4, 2011 version of this MSDS contains revisions to the following sections:  
• Section 8 – Exposure Controls & Personal Protection

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