



# Safety Data Sheet

## HYDROCHLORIC ACID, 32%

MVC-SDS-A-005P/L  
Review Date : 04/04/22  
Rev. Code : 00  
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### I. PRODUCT AND COMPANY IDENTIFICATION

Product Name	Hydrochloric Acid, 31.50-33.50 %
Recommended use of the chemical and restrictions on use	Chemical manufacturing, pH control, water treatment, boiler scale removal, laboratory reagent, pickling and cleaning of metals, ore refining, food processing, oil- and gas-well treatment, leather processing, household cleaning, laboratory reagent
Manufacturer Head Office	<b>Mabuhay Vinyl Corporation</b> 22F The Salcedo Towers, 169 H.V. Dela Costa St., Salcedo Village, Makati City For Assistance Call : (02) 8817-8971 to 76; Fax Number (02) 8816-4785
Iligan Plant	Assumption Heights, Buru-un, Iligan City Tel: (063) 221-3180, 221-1190; Fax: (063) 221-1753
Batangas Depot	BBTI Compound, Bauan, Batangas Tel: (043) 980-5869, (043) 980-5349
Cebu Depot	J.M. Ceniza St., Looc, Mandaue City Tel: (032) 344-5259, (032) 345-0639
Davao Depot	Bunawan, Davao City Tel: (082) 236-0015

### II. HAZARDS IDENTIFICATION

#### Hazard Classification

Skin corrosion: Category 1B - H314  
Serious eye damage: Category 1 - H314  
Acute toxicity (inhalation): Category 4 - H302  
Specific target organ toxicity (single exposure): Category 3 - H335  
Hazardous to the aquatic environment (acute toxicity): Category 1 - H400  
Corrosive to metals: Category 1 - H290

#### Symbols



**Signal Word:** DANGER

#### Hazard statements:

H314: Causes severe skin burns and eye damage.  
H335: May cause respiratory irritation.  
H302: Harmful if swallowed.  
H400: Very toxic to aquatic life.  
H290: May be corrosive to metals.

#### Precautionary statements:

#### Prevention

P271: Use only outdoors or in a well-ventilated area.  
P261: Avoid breathing dust/fume/gas/mist/vapours/spray.  
P264: Wash hands thoroughly after handling.

P280: Wear protective gloves/protective clothing/eye protection /face protection.

P273: Avoid release to the environment.

#### Response:

P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P301+ P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337+P313: If eye irritation persists: Get medical advice/attention

P303+P361+P353: IF ON SKIN (or hair): Remove immediately all contaminated clothing. Rinse skin with water/shower.

P310: Immediately call a POISON CENTER or doctor/physician.

P390: Absorb spillage to prevent material damage.

#### Storage:

P403: Store in a well ventilated place.

P233: Keep container tightly closed.

P405: Store locked up.

#### Disposal:

P501: Dispose of contents/container in accordance with applicable local, regional, national, and/or international regulations

### III. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Identity Hydrochloric Acid (liquid)  
Trade Names/ Muriatic acid; Chlorohydric acid;  
Synonyms Hydrogen chloride; Spirit of salt

Component Name	CAS Number	Concentration
Hydrochloric Acid	7647-01-0	31.50-33.50 %
Water	7732-18-5	68.50-66.50 %

### IV. FIRST AID MEASURES

**Description of first-aid measures:** In all instances, seek immediate medical attention.

**Inhalation:** Move to fresh air. Keep patient warm. 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.

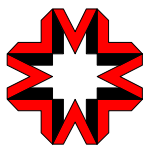
**Ingestion:** Rinse mouth. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Do not induce vomiting. Keep patient warm. In case of shortness of breath, give oxygen.

**Skin contact:** Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes.

**Eye contact:** Irrigate eyes extensively (at least 30 minutes). Do NOT allow victim to rub or keep eyes closed.

#### Most important symptoms/effects, both acute and delayed

May cause serious permanent damage. Forms blisters, ulceration and chemical burns to the skin, corneal burns with dangers of vision impairment / blindness, burns in the mouth, throat and esophagus, and can cause itching, cough and chemical burns to the respiratory tract.



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**Indication of any immediate medical attention and special treatment needed:** 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.

**First Aid Facilities:** Eye wash station, safety shower and normal washroom facilities.

### V. FIRE FIGHTING MEASURES

#### Extinguishing media

**Suitable extinguishing media:** Regular dry chemical, carbon dioxide, fine water spray, regular foam

**Unsuitable extinguishing media:** High volume water jet.

#### Special hazards arising from the substance or mixture:

Thermal decomposition releases toxic and corrosive gas (Hydrogen chloride, Chlorine). Reacts with metal producing flammable/explosive hydrogen gas. Heating can cause expansion or decomposition leading to violent rupture of containers.

**Special protective actions for firefighters:** Fight fire from safe location. Do not breathe fumes. Wear self-contained breathing apparatus and acid-resistant clothing. Containers close to fire should be removed immediately or cooled with water. Do not allow contaminated extinguishing water to enter the soil, groundwater or surface waters.

### VI. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures:** Evacuate all unprotected personnel and keep people away from and upwind of spill/leak. Put on protective equipment (see Section 8). Avoid direct contact with skin, eyes and clothing. Do not breathe vapor or fumes. Ensure adequate ventilation.

**Environmental precautions:** Avoid entry of product into drains, sewers, surface/ground water system or soil.

#### Methods and material for containment and cleaning up:

Shut off the source of the leak if conditions are safe. Neutralize with lime or soda ash or absorb with dry earth, sand or other non-combustible material, and dispose waste appropriately. Wash area down with excess water to remove residual material.

### VII. HANDLING AND STORAGE

#### Precautions for safe handling:

Use protective equipment (see Section 8). Provide adequate ventilation. Do not breathe dust, vapor, mist, or gas. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. Remove contaminated clothing and wash before reuse.

Addition to water releases heat which can result in violent boiling and splattering. Always add slowly and in small amounts. Never add water to acids; always add acids to water.

### Conditions for safe storage, including any incompatibilities

**Store** tightly closed in a dry, cool and well-ventilated place. Provide a catch-tank and an impermeable corrosion-resistant floor with drainage to a neutralization tank. Protect containers from heat, physical damage, ignition sources and incompatible materials. Contents may develop pressure upon prolonged storage.

**Suitable packaging material:** Vulcanized or rubber coated steel, plastic drum, reinforced polyester, polyvinyl chloride, polyethylene, polypropylene, polytetrafluoro ethylene PTFE (Teflon), glass, porcelain.

**Not suitable packaging material:** Stainless steel, light metals and alloys.

**Keep away from** Oxidizing agents, alkalis, finely divided metals.

### VIII. EXPOSURE CONTROLS AND PROTECTION

#### Control parameters

Exposure limits US OSHA PEL Ceiling: 5ppm

NIOSH IDLH: 50ppm

EU ELV (2009) TWA: 5ppm (8mg/m<sup>3</sup>)

**Appropriate engineering controls:** Ensure adequate ventilation.

**Individual protection measures/personal protective equipment:** Final choice of appropriate protection will vary according to methods of handling or engineering controls and according to risk assessments undertaken.

**Respiratory protection:** NIOSH-approved full- or half-facepiece respiratory equipment with cartridge(s) providing protection against the compound of concern. For emergency or planned entry into unknown concentrations or IDLH conditions, use any self-contained breathing apparatus with a full facepiece or any supplied air respirator with a full facepiece.

**Hand protection:** nitrile, neoprene or PVC gloves

**Eye / face protection:** safety glasses with side shields

**Skin protection:** suitable protective workwear, e.g. cotton overalls buttoned at neck and wrist. Chemical resistant apron is recommended where large quantities are handled.

### IX. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear to light yellow liquid
Odor	Strong, pungent, irritating
Odor threshold	1-5 ppm
pH	< 1, strong acid
Freezing point	-30 °C
Boiling point /range	81.5-110 °C
Flash point	Not applicable
Evaporation rate	> 1.00 (N-butyl acetate)
Flammability	Not applicable
Flammability/explosive limits	Not applicable



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Vapor pressure	35 mmHg @ 20 °C
Vapor density	1.26 (air=1)
Specific gravity (30°C)	1.150-1.162
Solubility	Completely soluble (water)
Partition coefficient: n-octanol/water	Not relevant
Auto-ignition temperature	Not applicable
Decomposition temperature	Not available
Viscosity	1.7 mm <sup>2</sup> /s at 20°C

**Skin contact:** May be absorbed through the skin in harmful amounts. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material. Contact with liquid is corrosive and causes severe burns and ulceration.

**Eye contact:** May cause irreversible eye injury. Vapor or mist may cause irritation and severe burns. Contact with liquid is corrosive to the eyes and causes severe burns. May cause painful sensitization to light

**Chronic effects:** defatting leading to dermatitis, erosion of teeth, conjunctivitis, photosensitization, and possible blindness.

### X. STABILITY AND REACTIVITY

**Reactivity:** Exothermic reaction with incompatible materials.

**Chemical stability:** Stable under recommended storage conditions.

**Possibility of hazardous reactions** arises in contact with incompatible materials and inappropriate conditions. Forms flammable and explosive hydrogen through corrosion of metals

**Conditions to avoid:** Mechanical shock, extremes of temperature and direct sunlight, exposure to moist air or water

**Incompatible materials:** strong bases, metals, metal oxides, hydroxides, amines, carbonates and other alkaline materials, conc. sulfuric acid, strong oxidizing agents, perchlorates, nitrates, peroxides, carbides, hydrides, cyanides, sulfides, sulfites, permanganates, salts of oxyhalogenic acids, semi-metallic oxides, semi-metallic hydrogen compounds, aldehydes, vinylmethyl ether

**Hazardous decomposition products:** hydrogen chloride gas, chlorine gas, carbon monoxide, carbon dioxide, hydrogen gas.

### XI. TOXICOLOGICAL INFORMATION

**Routes of exposure:** inhalation, ingestion, skin and eye contact

#### Potential acute effects

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

**Ingestion:** May cause circulatory system failure. Causes severe digestive tract burns with abdominal pain, vomiting, and possible death. May cause corrosion and permanent tissue destruction of the esophagus and digestive tract.

#### Numerical measures of toxicity

LC50 (inhalation, rat): 3124 ppm (V) / 1 h

LD50 (oral, rat): 900 mg/kg

### XII. ECOLOGICAL INFORMATION

#### Ecotoxicity

Fish Harmful to fish.

LC<sub>50</sub>, 24 h : 20.5 mg/l (pH: 3.2 - 3.5)

Aquatic invertebrates Very toxic to daphnia

LC<sub>50</sub>, 48h (Daphnia magna) : 0.45 mg/l

Aquatic plants Very toxic to algae.

EC<sub>50</sub>, 72 h (Chlorella vulgaris (Fresh water algae)) : 0.73 mg/l

#### Persistence and degradability:

**Biodegradation (In water):** High water solubility. Hydrochloric acid dissociates in and lowers the pH of water. It will be neutralized by natural alkalinity of surface water.

**Photodegradation (in air):** Indirect photo-oxidation in the atmosphere with a half-life of 11 days.

**Bioaccumulative potential:** An accumulation in aquatic organisms is not to be expected.

**Mobility in the soil:** Mobile in soils. 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.

**Other adverse effects:** Toxic to aquatic life. Acidic substance leading to a lower pH. However, pH will increase rather quickly because of dilution until an ecological neutral product is obtained. Fatal to aquatic life due to pH shift. Toxic to aquatic forms – 280 ppm in fresh water and 100 ppm in salt water.

### XIII. DISPOSAL CONSIDERATIONS

Empty containers must be decontaminated. Dispose of in accordance with all Government and Local regulations.



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### XIV. TRANSPORT INFORMATION

**UN Number** 1789  
**UN Proper Shipping Name** HYDROCHLORIC ACID  
**Transport hazard class** 8(Corrosive)  
**Packing group** II



#### Label

#### Environmental Hazards

Marine Pollutant : No  
Environmentally Hazardous : No

IMDG  
ADR(Road), AND(Water),  
IATA (Air)

### XV. REGULATORY INFORMATION

#### U.S. Regulations:

**TSCA:** Not listed  
**SARA Section 302 (RQ) :** final RQ = 5000 pounds  
(2270 kg)  
**Clean Air Act:** listed as a hazardous air pollutant; does not contain any Class 1, Class 2 Ozone depletory.  
**Clean Water Act:** listed as a Hazardous Substance, not listed as Priority Pollutant and Toxic Pollutant  
**OSHA:** considered highly hazardous

#### Canadian Regulations

DSL : Listed  
WHMIS Classification: D2A, E

#### European Regulations

Danger/Hazard Symbol: C Corrosive

#### EC Risk and Safety Phrases:

R 34 Causes burns.  
R 37 Irritating to respiratory system.  
S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

#### National Inventories

Conforms to Australian Chemical Inventory (AICS)  
China Chemical Inventory (IECSC)  
European Union Inventory (EINECS)  
Japan Chemical Inventory (ENCS)  
Korean Chemical Inventory (KECI)  
New Zealand Chemical Inventory (NZIOC)  
Philippines - Priority Chemical List (PICCS)  
U.S. Inventory (TSCA)

### XVI. OTHER INFORMATION

The information herein is presented in good faith and believed to be correct as of the date of issue. However, no warranty, expressed or implied, is made by Mabuhay Vinyl Corporation regarding the product's merchantability, fitness for a particular purpose, performance, safety or stability. This information is not intended to be all-inclusive as to the manner and conditions of use, handling, storage, disposal and other factors that may involve other or additional legal, environmental, safety or performance considerations, and Mabuhay Vinyl Corporation assumes no liability whatsoever for the use of or reliance upon this information. No suggestions for use are intended as, and nothing herein shall be construed as, a recommendation to infringe any existing patents or to violate any existing laws or regulations.

End of Safety Data Sheet