

**1. Identification of the substance/preparation and of the company/undertaking****1.1 Identification of the product****Product number:** H8040**Name of material:** Hydrochloric Acid 37%**CAS No.:** 7647-01-0**1.2 Recommended use and restriction on use**

General use : for experimental, research and industrial use

Restriction on use : Never drink, Not used except for experimental, research and industrial applications.

**1.3 Manufacturer / Supplier / Distributor information****Importer/distributors identification**

Company : ASIA CHEMIE (THAILAND) CO., LTD.

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**2. Hazards identification****2.1 GHS Classification**

Corrosive to metals : Category1

Acute toxicity (oral) : Category3

Acute toxicity (inhalation: vapor) : Category3

Skin corrosion/irritation : Category1A

Specific target organ toxicity(Single exposure) : Category3(Respiratory tract irritation)

**2.2 GHS label elements****Hazard symbols****Signal words :** Danger**Hazard statements**

H290 May be corrosive to metals

H301 Toxic if swallowed

H314 Causes severe skin burns and eye damage

H331 Toxic if inhaled

H335 May cause respiratory irritation.

**Precautionary Statements**

P234 Keep only in original container.

P260 Do not breathe gas/mist/vapours/spray.

P261 Avoid breathing gas/mist/vapours/spray.

P264 Wash hands thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P271 Use only outdoors or in a well-ventilated area.

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

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

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

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

P310 Immediately call a POISON CENTER or doctor/physician.

P311 Call a POISON CENTER or doctor/physician.

P312 Call a POISON CENTER or doctor/physician if you feel unwell.

P321 Specific treatment

P330 Rinse mouth.

P363 Wash contaminated clothing before reuse.

P390 Absorb spillage to prevent material damage.

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

P406 Store in corrosive resistant container with a resistant inner liner.

P501 Dispose of contents/container in accordance with local/regional/national/international regulation

### 2.3 Other hazards which do not result in classification : (NFPA Classification)

**NFPA grade (0 ~ 4 level)**

- Health : 3 , Flammability : 0, Reactivity : 1

### 3. Composition/information on ingredients

Chemical Name	Synonyms	CAS No.	Concentration (%)
Water	-	7732-18-5	65
Hydrogen chloride	-	7647-01-0	35

### 4. First aid measures

#### 4.1 Eye contact

- Do not rub your eyes.
- Immediately flush eyes with plenty of water for at least 15 minutes and call a doctor/physician.
- Get medical attention immediately.

#### 4.2 Skin contact

- Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
- Wash contaminated clothing thoroughly before re-using.
- Get medical attention immediately.
- Wash thoroughly after handling.

#### 4.3 Inhalation contact

- When exposed to large amounts of steam and mist, move to fresh air.
- Take specific treatment if needed.
- Get medical attention immediately.
- If breathing is stopped or irregular, give artificial respiration and supply oxygen.
- Take the doctor's examination.

#### 4.4 Ingestion contact

- Please be advised by doctor whether induction of vomit is demanded or not.
- Rinse your mouth with water immediately.
- Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
- Get medical attention immediately.

#### 4.5 Delayed and immediate effects and also chronic effects from short and long term exposure

- Not available

#### 4.6 Notes to physician

- Notify medical personnel of contaminated situations and have them take appropriate protective measures.

### 5. Fire-fighting measures

#### 5.1 Suitable (Unsuitable) extinguishing media

- Dry chemical, carbon dioxide, regular foam extinguishing agent, spray.
- Avoid use of water jet for extinguishing.

#### 5.2 Specific hazards arising from the chemical

- Not available

#### 5.3 Special protective actions for firefighters

- In case of conflagration, use automatic fire sprinkler. Major fire may require withdrawal, allowing the object itself to burn.
- Do not access if the tank on fire.
- Use appropriate extinguishing measure suitable for surrounding fire.
- Wear appropriate protective equipment.
- Keep containers cool with water spray.
- Vapor or gas is burned at distant ignition sources can be spread quickly.

### 6. Accidental release measures

#### 6.1 Personal precautions, protective equipment and emergency procedures

- Ventilate closed spaces before entering.
- Must work against the wind, let the upwind people to evacuate.
- Do not touch spilled material. Stop leak if you can do it without risk.

- Remove all sources of ignition.
- Do not direct water at spill or source of leak.
- Avoid skin contact and inhalation.

#### 6.2 Environmental precautions

- Prevent runoff and contact with waterways, drains or sewers.
- If large amounts have been spilled, inform the relevant authorities.

#### 6.3 Methods and materials for containment and cleaning up

- Large spill : Stay upwind and keep out of low areas. Dike for later disposal.
- Notification to central government, local government. When emissions at least of the standard amount
- Dispose of waste in accordance with local regulation.
- Appropriate container for disposal of spilled material collected.
- Small leak: sand or other non-combustible material, please let use absorption.
- Wipe off the solvent.
- Dike for later disposal.

### 7. Handling and storage

#### 7.1 Precautions for safe handling

- Avoid contact with incompatible materials.
- Comply with all applicable laws and regulations for handling
- Refer to Engineering controls and personal protective equipment.
- Operators should wear antistatic footwear and clothing.
- Do not inhale the steam prolonged or repeated.
- Avoid contact with strong oxidizing agent.

#### 7.2 Conditions for safe storage, including any incompatibilities

- Do not apply direct heat.
- Avoid direct sunlight.
- Keep in the original container.
- Please pay attention to incompatibilities materials and conditions to avoid.
- No open fire.
- Collected them in sealed containers.
- Do not eat, drink or smoke when using this product.
- Do not store in metal containers.

### 8. Exposure controls/personal protection

#### 8.1 Exposure limits

##### ACGIH TLV

- [Hydrogen chloride] : Ceiling, 2 ppm

##### OSHA PEL

- [Hydrogen chloride]:(C) 5 (C) 7

#### 8.2 Engineering controls

Business owner is recommended to maintain below recommended exposure limits for the working place with general exhaust of gas/vapour/mist/fume.

#### 8.3 Individual protection measures, such as personal protective equipment

##### Respiratory protection

- Under conditions of frequent use or heavy exposure, Respiratory protection may be needed.
- Respiratory protection is ranked in order from minimum to maximum.
- Consider warning properties before use.
- Any chemical cartridge respirator with organic vapor cartridge(s).
- Any chemical cartridge respirator with a full facepiece and organic vaporcartridge(s).
- Any air-purifying respirator with a full facepiece and an organic vapor canister.
- For Unknown Concentration or Immediately Dangerous to Life or Health : Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply. Any self-contained breathing apparatus with a full facepiece.

##### Eye protection

- Wear primary eye protection such as splash resistant safety goggles with a secondary protection face shield.
- Provide an emergency eye wash station and quick drench shower in the immediate work area.

##### Hand protection

- Wear appropriate chemical resistant glove.

##### Skin protection

- Wear appropriate chemical resistant protective clothing.

**Others**

- Not available

**9. Physical and chemical properties**

A. Appearance	
- Appearance	Liquid
- Color	colorless
B. Odor	characteristic odor
C. Odor threshold	Not available
D. pH	Not available
E. Melting point/Freezing point	-25 °C
F. Initial Boiling Point/Boiling Ranges	Not available
G. Flash point	Not available
H. Evaporation rate	20 hPa (20°C)
I. Flammability (solid, gas)	Not available
J. Upper/Lower Flammability or explosive limits	Not available
K. Vapour pressure	Not available
L. Solubility	67 g/100 ml (30°C)
M. Vapour density	Not available
N. Specific gravity (Relative density)	1.19
O. Partition coefficient of n-octanol/water	Not available
P. Autoignition temperature	Not available
Q. Decomposition temperature	Not available
R. Viscosity	Not available
S. Molecular weight	36.46

**10. Stability and reactivity****10.1 Chemical Stability**

- Stable under normal conditions of use and storage.

**10.2 Possibility of hazardous reactions**

- May be corrosive to metals.

**10.3 Conditions to avoid**

- Avoid contact with incompatible materials and condition.
- Avoid : Accumulation of electrostatic charges, Heating, Flames and hot surfaces
- Avoid contact with metals.

**10.4 Incompatible materials**

- Avoid contact with strong oxidizing agent and strong reducing agent.

**10.5 Hazardous decomposition products**

- May emit flammable vapour if involved in fire.

**11. Toxicological information****11.1 Information on the likely routes of exposure****Respiratory tracts**

- May cause respiratory irritation.

**Oral**

- Toxic if swallowed.

**Eye • Skin**

- Causes severe skin burns and eye damage

**11.2 Delayed and immediate effects and also chronic effects from short and long term exposure****Acute toxicity****\* Oral**

- Product (ATEmix) : 300mg/kg < ATEmix <= 2000mg/kg
- [Water] : LD50 > 90000 mg/kg Rat (KOSHA)
- [Hydrogen chloride] : LD50 238 mg/kg Rat (SIDS)

**\* Dermal**

- Product (ATEmix) : >5000mg/kg
- [Hydrogen chloride] : LD50 > 5010 mg/kg Rabbit (SIDS)

**\* Inhalation**

- Product (ATEmix) : Not available
- [Hydrogen chloride] : Gas LC50 1411 ppm 4 hr Rat (NITE)

**Skin corrosion/irritation**

- Causes severe skin burns and eye damage

**Serious eye damage/irritation**

- Not available

**Respiratory sensitization**

- Not available

**Skin sensitization**

- Not available

**Carcinogenicity****\* IARC**

- [Hydrogen chloride] : Group 3

**\* OSHA**

- Not available

**\* ACGIH**

- [Hydrogen chloride] : A4

**\* NTP**

- Not available

**\* EU CLP**

- Not available

**Germ cell mutagenicity**

- Not available

**Reproductive toxicity**

- Not available

**STOT-single exposure**

- May cause respiratory irritation.

**STOT-repeated exposure**

- Not available

**Aspiration hazard**

- Not available

**12. Ecological information****12.1 Ecotoxicity****Fish**

- [Hydrogen chloride] : LC50 3.25 mg/l ~ 3.5 mg/l 96 hr *Lepomis macrochirus*.

**Crustaceans**

- [Hydrogen chloride] : EC50 4.92 mg/l 48 hr *Daphnia magna*.

**Algae**

- [Hydrogen chloride] : EC50 0.492 mg/l 72 hr *Selenastrum capricornutum*

**12.2 Persistence and degradability****Persistence**

- [Water] : log Kow = -1.38
- [Hydrogen chloride] : log Kow 0.25 (ICSC)

**Degradability**

- Not available

**12.3 Bioaccumulative potential****Bioaccumulative potential**

- [Hydrogen chloride] : BCF 3.162 (*Low concentration potential*)

**Biodegradation**

- Not available

**12.4 Mobility in soil**

Not available

**12.5 Other adverse effects**

Not available

**13. Disposal considerations****13.1 Disposal methods**

- Since more than two kinds of designated waste is mixed, it is difficult to treat separately, then can be reduction or stabilization by incineration or similar process.
- If water separation is possible, pre-process with Water separation process.
- Dispose by incineration.
- Do disposal as neutralization, hydrolysis and oxidation-reduction.
- High temperature incinerating, high-temperature melt processing will be landfilled
- Solidification processing.

**13.2 Special precautions for disposal**

- The user of this product must dispose by oneself or entrust it to a waste disposer, a person who recycles other's waste or establishes and operates waste disposal facilities.
- Dispose of waste in accordance with all applicable laws and regulations.

**14. Transport information****14.1 UN No. (IMDG CODE/IATA DGR)**

- 1789

**14.2 Proper shipping name**

- HYDROCHLORIC ACID

**14.3 Hazard Class**

- 8

**14.4 IMDG CODE/IATA DGR Packing group**

- II

**14.5 Marine pollutant**

- Not applicable

**14.6 Special precautions for user related to transport or transportation measures**

- Local transport follows in accordance with Dangerous goods Safety Management Law.
- Package and transport follow in accordance with Department of Transportation (DOT) and other regulatory agency requirements.
- EmS FIRE SCHEDULE : F-A (General fire schedule)
- EmS SPILLAGE SCHEDULE : S-B (Corrosive substances)

**15. Regulatory information****15.1 National and/or international regulatory information****POPs Management Law**

- Not applicable

**Information of EU Classification****\* Classification**

- [Hydrogen chloride] : H331, H314

**U.S. Federal regulations****\* OSHA PROCESS SAFETY (29CFR1910.119)**

- [Hydrogen chloride] : 2267.995 kg 5000 lb

**\* CERCLA Section 103 (40CFR302.4)**

- [Hydrogen chloride] : 2267.995 kg 5000 lb

**\* EPCRA Section 302 (40CFR355.30)**

- Not applicable

**\* EPCRA Section 304 (40CFR355.40)**

- Not applicable

**\* EPCRA Section 313 (40CFR372.65)**

- Not applicable

**Rotterdam Convention listed ingredients**

- Not applicable

**Stockholm Convention listed ingredients**

- Not applicable

**Montreal Protocol listed ingredients**

- Not applicable

**16. Other information**

**Reason for the revision:** General update.

Date: 10/4/2014

**Revision #4**

Date: 05/01/2021

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