



OCI Company Ltd.

MSDS

1N-Hydrochloric acid

Section 1 - Chemical Product and Company Identification

SUBSTANCE: 1N-Hydrochloric acid

Recommended use : Not available

Restriction of use : Not available

Company Identification

Company : OCI Company Ltd.

Address : 230, Dokbae-ro, Nam-gu, Incheon, KOREA

Tel No. : 82-32-860-6114

Section 2 - Hazards Identification

- 1) Hazard Classification
- Skin corrosion/irritation : 2
 - Serious eye damage / Eye irritation : 1
 - Respiratory sensitization : 1
 - Specific target organ toxicity following single exposure : 2
 - Specific target organ toxicity following repeated exposure : 2

2) Warning signal

Symbol



Signal word

Danger

Hazard statement

- H315 Causes skin irritation
- H318 Causes serious eye damage
- H330 Fatal if inhaled
- H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled
- H371 May cause damage to organs
- H373 May cause damage to organs through prolonged or repeated exposure

Prevention precautionary statements

- P260 Do not breathe dust/fume/gas/mist/vapours/spray.
- P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
- P264 Wash 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.
P284 Wear respiratory protection.
P285 In case of inadequate ventilation wear respiratory protection.
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P304+P341 IF INHALED: If breathing is difficult, 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.
P309+P311 IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician.
P310 Immediately call a POISON CENTER or doctor/physician.
P314 Get medical advice/attention if you feel unwell.
P320 Specific treatment is urgent (see on this label).
P321 Specific treatment
P332+P313 If skin irritation occurs: Get medical advice/attention.
P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
P362 Take off contaminated clothing and wash before reuse.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
P410+P403 Protect from sunlight. Store in a well-ventilated place.
P501 Dispose of contents/container to the related laws.

3) NFPA

Health Rating	3
Flammability Rating	0
Reactivity Rating	1

Section 3 - Composition, Information on Ingredients

COMPONENT: Hydrochloric acid

CAS No.: 7647-01-0

PERCENTAGE: < 5

COMPONENT: Water

CAS No.: 7732-18-5

PERCENTAGE: > 95

Section 4 - First Aid Measures

Inhalation: Corrosive. May cause damage to mucous membranes in nose, throat, lungs and bronchial system.

Ingestion: Corrosive. Ingestion may produce burns to the lips, oral cavity, upper airway, esophagus and possibly the digestive tract.

Skin Contact: Corrosive. Causes severe skin burns.

Eye Contact: Corrosive. Causes severe eye burns. Vapor or spray may cause eye damage, impaired sight or

blindness.

Section 5 - Fire Fighting Measures

Flammable properties : The product is not flammable. No unusual fire or explosion hazards noted.

Extinguishing media

Suitable extinguishing media: Water. Carbon dioxide (CO₂). Dry chemical powder. Foam.

Unsuitable extinguishing media: None known.

Protection of firefighters

Specific hazards arising from the chemical: Fire may produce irritating, corrosive and/or toxic gases.

Protective equipment and precautions for firefighters: Use water spray to cool unopened containers.

Self-contained breathing apparatus and full protective clothing must be worn in case of fire. Cool containers exposed to flames with water until well after the fire is out.

Special protective equipment for fire-fighters

Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask. Wear self-contained breathing apparatus with a full facepiece operated in the positive pressure demand mode when fighting fires.

Specific methods: In the event of fire and/or explosion do not breathe fumes.

Section 6 - Accidental Release Measures

Personal protection : Wear appropriate protective equipment and clothing during clean-up. Keep upwind. Keep out of low areas. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained.

Environmental protection : Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

Methods for containment : Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Prevent entry into waterways, sewer, basements or confined areas.

Section 7 - Handling and Storage

Storage: Do not store in metal containers. Keep tightly closed in a dry, cool and well-ventilated place.

Handling: Do not breathe mist or vapor. Do not get in eyes, on skin, on clothing. Do not taste or swallow. Use only with adequate ventilation. Wash thoroughly after handling. Do not eat, drink or smoke when using the product. 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.

Section 8 - Exposure Controls, Personal Protection

Eye / face protection : Wear safety glasses with side shields (or goggles) and a face shield.

Skin protection : Wear appropriate chemical resistant clothing. Wear appropriate chemical resistant gloves.

Respiratory protection : If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Respirator type: Chemical respirator with acid gas cartridge.

General hygiene considerations : Provide eyewash station and safety shower. Always observe good personal

hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

General : Wear chemical protective equipment that is specifically recommended by the manufacturer. Launder contaminated clothing before reuse.

Section 9 - Physical and Chemical Properties

Physical State: Liquid

Appearance: Colorless

Odor: Pungent

pH: < 1

Vapor Pressure: Not available

Vapor Density: Not available

Evaporation Rate: Not available

Viscosity: Not available

Boiling Point: Not available

Freezing/Melting Point: Not available

Decomposition Temperature: Not available

Solubility: Soluble

Specific Gravity/Density: Not available

Molecular Formula: HCl

Molecular Weight: 36.46

Section 10 - Stability and Reactivity

Chemical Stability: Material is stable under normal conditions.

Conditions to Avoid: Reacts violently with strong alkaline substances. This product may react with reducing agents. Do not mix with other chemicals. This product may react with oxidizing agents. Unsuitable containers: metals.

Incompatibilities with Other Materials: Incompatible with bases. Metals. Oxidizing agents. Acids. Amines. Reducing agents.

Hazardous Decomposition Products: Hydrogen chloride. Chlorine. May decompose upon heating to produce corrosive and/or toxic fumes.

Hazardous Polymerization: Will not occur.

Section 11 - Toxicological Information

Sensitization : Not a skin sensitizer.

Acute effects : Corrosive. Prolonged contact causes serious tissue damage.

Local effects : Causes severe burns.

Chronic effects : Corrosive. Prolonged contact causes serious tissue damage.

Carcinogenicity : This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

Section 12 - Ecological Information

Ecotoxicity : The product may affect the acidity (pH-factor) in water with risk of harmful effects to aquatic organisms.

Persistence and degradability : Expected to be readily biodegradable.

Partition coefficient(n-octanol/water) : Not available

Section 13 - Disposal Considerations

Dispose of this material and its container to hazardous or special waste collection point.

Incinerate the material under controlled conditions in an approved incinerator. All wastes must be handled in accordance with local, state and federal regulations.

Since emptied containers retain product residue, follow label warnings even after container is emptied. Offer rinsed packaging material to local recycling facilities.

Section 14 - Transport Information

Shipping Name: Hydrochloric acid solution

Hazard Class: 8

UN Number: UN1789

Packing Group: II

Section 15 - Regulatory Information

Not available

Section 16 - Other Information

Sources : KOSHA, National Emergency Management Agency

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