# Hydrochloric Acid,0.1N

## SECTION 1: Identification of the substance/mixture and of the supplier

**Product name**: **Hydrochloric Acid,0.1N**

**Manufacturer/Supplier Trade name**:

**Manufacturer/Supplier Article number**: **S25354**

**Recommended uses of the product and restrictions on use**:

**Manufacturer Details**:

AquaPhoenix Scientific, Inc
9 Barnhart Drive, Hanover, PA 17331
(717) 632-1291

**Supplier Details**:

Fisher Science Education
6771 Silver Crest Road, Nazareth, PA 18064
(724)517-1954

**Emergency telephone number**:

**Fisher Science Education**
Emergency Telephone No.: 800-535-5053

## SECTION 2: Hazards identification

**Classification of the substance or mixture**:



**Corrosive**
Corrosive to metals, category 1

Corrosive to metals 1.

**Signal word**: Warning

**Hazard statements:**
May be corrosive to metals.

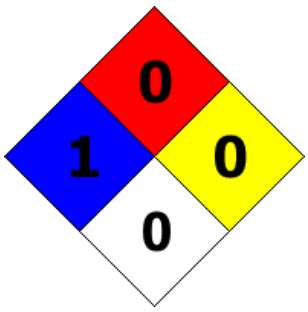
**Precautionary statements:**
Keep only in original container.
Absorb spillage to prevent material damage.
Store in corrosive resistant stainless steel container with a resistant inner liner.

**Other Non-GHS Classification**:

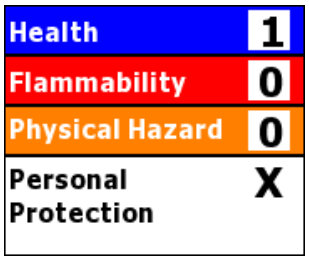
**WHMIS**

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**NFPA/HMIS**




NFPA SCALE (0-4)




HMIS RATINGS (0-4)

## SECTION 3: Composition/information on ingredients

| **Ingredients:** | | |
|---|---|---|
| CAS 7647-01-0 | Hydrochloric Acid | 0.98 % |
| CAS 7732-18-5 | Water | 99.02 % |
| | | Percentages are by weight |

## SECTION 4: First aid measures

### Description of first aid measures

**After inhalation:**

Move exposed individual to fresh air. Loosen clothing as necessary and position individual in a comfortable position. Seek medical advice if discomfort or irritation persists.

**After skin contact:**

Wash affected area with soap and water. Rinse/flush exposed skin gently using water for 15-20 minutes. Seek medical attention if irritation persists or if concerned.

**After eye contact:**

Protect unexposed eye. Rinse/flush exposed eye(s) gently using water for 15-20 minutes. Remove contact lens(es) if able to do so during rinsing. Seek medical attention if irritation persists or if concerned.

**After swallowing:**

Rinse mouth thoroughly. Do not induce vomiting. Have exposed individual drink sips of water. Seek medical attention if irritation, discomfort or vomiting persists.

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

Inhalation may cause irritation to nose and upper respiratory tract, ulceration, coughing, chest tightness and shortness of breath. Higher concentrations cause tachypnoea, pulmonary oedema and suffocation. Ingestion may cause corrosion of lips, mouth, oesophagus and stomach, dysphagia and vomiting. Pain, eye ulceration, conjunctival irritation, cataracts and glaucoma may occur following eye exposure. Erythema and skin irritation, as well as chemical burns to skin and mucous membranes may arise following skin exposure. Potential sequelae following ingestion of hydrochloric acid include perforation, scarring of the oesophagus or stomach and stricture formation causing dysphagia or gastric outlet obstruction. In some cases, RADS may develop. Respiratory symptoms may take up to 36 hours to develop.

### Indication of any immediate medical attention and special treatment needed:

If seeking medical attention, provide SDS document to physician.

## SECTION 5: Firefighting measures

### Extinguishing media

**Suitable extinguishing agents:**

If in laboratory setting, follow laboratory fire suppression procedures. Use appropriate fire suppression agents for adjacent combustible materials or sources of ignition.

**Unsuitable extinguishing agents:** None

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

Combustion products may include carbon oxides or other toxic vapors. Hydrogen chloride gas.

**Advice for firefighters:**

**Protective equipment:** None

**Additional information (precautions):**

Thermal decomposition can produce poisoning chlorine. Hydrochloric acid reacts also with many organic materials with liberation of heat.

## SECTION 6: Accidental release measures

**Personal precautions, protective equipment and emergency procedures:**

Wear protective equipment. Use respiratory protective device against the effects of fumes/dust/aerosol. Keep unprotected persons away. Ensure adequate ventilation. Keep away from ignition sources. Protect from heat. Contain spilled material by diking or using inert absorbent. Transfer to a disposal or recovery container.

**Environmental precautions:**

Prevent from reaching drains, sewer or waterway. Collect contaminated soil for characterization per Section 13.

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

If in a laboratory setting, follow Chemical Hygiene Plan procedures. Collect liquids using vacuum or by use of absorbents. Place into properly labeled containers for recovery or disposal. If necessary, use trained response staff/contractor. Then flush area with water and neutralize washings with lime stone, slaked lime, soda ash or caustic. If permitted, flush neutralized washing to a waste treatment plant. Dispose of all contaminants according to federal, state and local regulations. Soak up with inert absorbent material. Keep in suitable and closed containers for disposal.

**Reference to other sections:** None

## SECTION 7: Handling and storage

**Precautions for safe handling:**

Prevent formation of aerosols. If opening metal containers, use non-sparking tools because of the possibility of hydrogen gas being present. Wash hands after handling. Avoid contact with skin, eyes and clothing. If in a laboratory setting, follow Chemical Hygiene Plan. Use only in well ventilated areas. Avoid splashes or spray in enclosed areas. Wear appropriate protective equipment. When handle hydrochloric acid avoid contact with metals and organic matters. Never use hot water and never add water to the acid!.

**Conditions for safe storage, including any incompatibilities:**

Store in a cool location. Keep Protect from freezing and physical damage. Provide ventilation for containers. Avoid storage near extreme heat, ignition sources or open flame. Store away from foodstuffs. Store away from oxidizing agents. Store in cool, dry conditions in well sealed containers. Keep container tightly sealed. Store with like hazards. Containers for hydrochloric acid must be made from corrosion resistant materials: glass, polyethylene, polypropylene, polyvinyl chloride, carbon steel lined with rubber or ebonite.

## SECTION 8: Exposure controls/personal protection





| | |
|---|---|
| **Control Parameters:** | 7647-01-0, Hydrochloric Acid, ACGIH: 2 ppm Ceiling.<br>7647-01-0, Hydrochloric Acid, NIOSH: 5 ppm Ceiling; 7 mg/m3 Ceiling.<br>7647-01-0, Hydrochloric Acid, OSHA PEL TWA 7 mg/m3. |
| **Appropriate Engineering controls:** | Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use/handling. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor or mists below the applicable workplace exposure limits (Occupational Exposure Limits-OELs) indicated above. |
| **Respiratory protection:** | Not required under normal conditions of use. Use suitable respiratory protective device when high concentrations are present. Use suitable respiratory protective device when aerosol or mist is formed. For spills, respiratory protection may be advisable. |
| **Protection of skin:** | The glove material has to be impermeable and resistant to the product/ the substance/ the preparation being used/handled. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation. |
| **Eye protection:** | Safety glasses with side shields or goggles. |
| **General hygienic measures:** | The usual precautionary measures are to be adhered to when handling chemicals. Keep away from food, beverages and feed sources. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Do not inhale gases/fumes/dust/mist/vapor/aerosols. Avoid contact with the eyes and skin. |

## SECTION 9: Physical and chemical properties

| | | | |
|---|---|---|---|
| **Appearance (physical state, color)**: | Clear, colorless liquid. | **Explosion limit lower**:<br>**Explosion limit upper**: | Non Explosive<br>Non Explosive |
| **Odor**: | Pungent odor | **Vapor pressure at 20°C**: | Not Determined |
| **Odor threshold**: | Not Determined | **Vapor density**: | Not Determined |
| **pH-value**: | 0.10 (1N) | **Relative density**: | Approx 1 |
| **Melting/Freezing point**: | 1.10 C | **Solubilities**: | Soluble in Water. |
| **Boiling point/Boiling range**: | Not Determined | **Partition coefficient (n-octanol/water)**: | Not Determined |
| **Flash point (closed cup)**: | Not Applicable | **Auto/Self-ignition temperature**: | Not Determined |
| **Evaporation rate**: | Not Determined | **Decomposition temperature**: | Not Determined |
| **Flammability (solid, gaseous)**: | non combustible | **Viscosity**: | a. Kinematic: Not Determined<br>b. Dynamic: Not Determined |
| **Density at 20°C**: | Not Determined<br>**Hydrochloric Acid:**MW is36.46 | | |

## SECTION 10: Stability and reactivity

**Reactivity:**

Nonreactive under normal conditions.

**Chemical stability:**

No decomposition if used and stored according to specifications.

**Possible hazardous reactions:**

Nonreactive under normal conditions.

**Conditions to avoid:**

Excess heat. Incompatible products.

**Incompatible materials:**

metal oxides. formaldehydes. Strong bases. Most metals. Strong oxidizing agents. Reducing agents. Alkalis. cyanides. sulfides. sulfites.

**Hazardous decomposition products:**

Carbon oxides (CO, CO2). Fumes of hydrogen chloride and hydrogen in contact with metals. Oxides of carbon.

## SECTION 11: Toxicological information

**Acute Toxicity**:

**Oral**:

Hydrochloric acid LD50 Rat: 238-277 mg/kg

**Dermal**:

Hydrochloric acid LD50 Rabbit: >5010 mg/kg

**Inhalation**:

Hydrochloric acid LD50 Rat: 3124 ppm/hour

**Chronic Toxicity**: No additional information.
**Corrosion Irritation**: No additional information.
**Sensitization**: No additional information.
**Numerical Measures**: No additional information.
**Carcinogenicity**:

IARC:: Group 3: Not classifiable as to its carcinogenicity to humans (Hydrochloric acid)

**Mutagenicity**: No additional information.
**Reproductive Toxicity**: No additional information.

## SECTION 12: Ecological information

**Ecotoxicity:** No additional information.
**Persistence and degradability**:

Readily biodegradable.

**Bioaccumulative potential**:

Not Bioaccumulative.

**Mobility in soil**:

Aqueous solution has high mobility in soil.

**Other adverse effects**: No additional information.

## SECTION 13: Disposal considerations

**Waste disposal recommendations**:

Cover spill with soda ash or calcium carbonate. Mix and add water to form slurry. Decant to drain. Treat the solid residue as normal refuse. All chemical waste generators must determine whether a discarded chemical is classified as hazardous waste. Comply with all local, state, and federal regulations. Product/containers must not be disposed together with household garbage. Do not allow product to reach sewage system or open water. It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11). Consult federal state/ provincial and local regulations regarding the proper disposal of waste material that may incorporate some amount of this product.

## SECTION 14: Transport information

**US DOT**

**UN Number:**
ADR, ADN, DOT, IMDG, IATA Not Regulated.

**Limited Quantity Exception:** None

**Bulk:**
**RQ (if applicable):** None
**Proper shipping Name:** Not Regulated.
**Hazard Class:** None
**Packing Group:** Not Regulated.
**Marine Pollutant (if applicable):** No additional information.
**Comments:** None

**Non Bulk:**
**RQ (if applicable):** None
**Proper shipping Name:** Not Regulated.
**Hazard Class:** None
**Packing Group:** Not Regulated.
**Marine Pollutant (if applicable):** No additional information.
**Comments:** None

## SECTION 15: Regulatory information

**United States (USA)**

**SARA Section 311/312 (Specific toxic chemical listings)**:

Acute

**SARA Section 313 (Specific toxic chemical listings)**:

7647-01-0 Hydrochloric Acid.
7647-01-0 Hydrochloric acid – Weight: <2% Threshold: 1.0.

**RCRA (hazardous waste code)**:

None of the ingredients are listed.

**TSCA (Toxic Substances Control Act)**:

All ingredients are listed.

**CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act)**:

7647-01-0 Hydrochloric Acid 5000.

**Proposition 65 (California)**:

**Chemicals known to cause cancer**:

None of the ingredients are listed.

**Chemicals known to cause reproductive toxicity for females**:

None of the ingredients are listed.

**Chemicals known to cause reproductive toxicity for males**:

None of the ingredients are listed.

**Chemicals known to cause developmental toxicity**:

None of the ingredients are listed.

**Canada**

**Canadian Domestic Substances List (DSL)**:

All ingredients are listed.

**Canadian NPRI Ingredient Disclosure list (limit 0.1%)**:

None of the ingredients are listed.

**Canadian NPRI Ingredient Disclosure list (limit 1%)**:

7647-01-0 Hydrochloric Acid.

## SECTION 16: Other information

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations. Note. The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations applicable to this material.

**GHS Full Text Phrases**: None

**Abbreviations and Acronyms**:

IMDG International Maritime Code for Dangerous Goods.
PNEC Predicted No-Effect Concentration (REACH).
CFR Code of Federal Regulations (USA).
SARA Superfund Amendments and Reauthorization Act (USA).
RCRA Resource Conservation and Recovery Act (USA).
TSCA Toxic Substances Control Act (USA).
NPRI National Pollutant Release Inventory (Canada).
DOT US Department of Transportation.
IATA International Air Transport Association.
GHS Globally Harmonized System of Classification and Labelling of Chemicals.
ACGIH American Conference of Governmental Industrial Hygienists.
CAS Chemical Abstracts Service (division of the American Chemical Society).
NFPA National Fire Protection Association (USA).
HMIS Hazardous Materials Identification System (USA).
WHMIS Workplace Hazardous Materials Information System (Canada).
DNEL Derived No-Effect Level (REACH).

**Effective date**: 01.08.2015
**Last updated**: 06.17.2015