

# Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 01.08.2015

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## Hydrochloric Acid,ACS,2.5L

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

**Product name:** Hydrochloric Acid,ACS,2.5L

**Manufacturer/Supplier Trade name:**

**Manufacturer/Supplier Article number:** S25838A

**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:**

Serious eye damage, category 1  
Specific target organ toxicity following single exposure, category 3  
Corrosive to metals, category 1  
Skin corrosion, category 1B

**Hazard statements:**

May be corrosive to metals.  
Causes severe skin burns and eye damage.  
May cause respiratory irritation.

**Precautionary statements:**

If medical advice is needed, have product container or label at hand.  
Keep out of reach of children.  
Read label before use.  
Use only outdoors or in a well-ventilated area.  
Wear protective gloves/protective clothing/eye protection/face protection.  
Keep only in original container.  
Do not get in eyes, on skin, or on clothing.  
Wash skin thoroughly after handling.  
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.  
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do.  
Continue rinsing.  
Immediately call a POISON CENTER or doctor/physician.  
Specific treatment (see supplemental first aid instructions on this label).  
Wash contaminated clothing before reuse.  
Absorb spillage to prevent material damage.  
Store in a well ventilated place. Keep container tightly closed.  
Store locked up.  
Store in corrosive resistant stainless steel container with a resistant inner liner.

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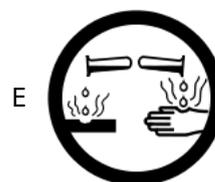
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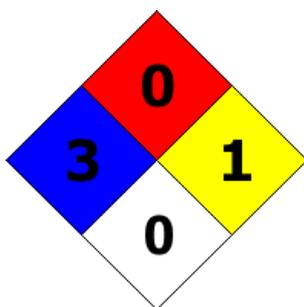
Dispose of contents and container to an approved waste disposal plant.

### Other Non-GHS Classification:

#### WHMIS



#### NFPA/HMIS



NFPA SCALE (0-4)

Health	3
Flammability	0
Physical Hazard	1
Personal Protection	X

HMIS RATINGS (0-4)

### SECTION 3: Composition/information on ingredients

Ingredients:		
CAS 7647-01-0	Hydrochloric Acid, ACS	30-50 %
CAS 7732-18-5	Water	50-70 %
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 attention if irritation or coughing persists.

##### After skin contact:

Wash affected area with soap and water. Immediately remove contaminated clothing and shoes. Rinse thoroughly with plenty of water for at least 15 minutes. Immediately seek medical attention.

##### After eye contact:

Protect unexposed eye. Flush thoroughly with plenty of water for at least 15 minutes. Remove contact lenses while rinsing. Continue rinsing eyes during transport to hospital.

##### After swallowing:

Rinse mouth thoroughly. Do not induce vomiting. Have exposed individual drink sips of water. Immediately seek medical attention.

#### 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

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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. Symptoms of burning sensation, cough, wheezing, laryngitis, shortness of breath, spasm, inflammation, edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema. Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin.

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

Provide SDS to Physician. Physician should treat symptomatically.

## SECTION 5: Firefighting measures

### Extinguishing media

#### Suitable extinguishing agents:

Use water, dry chemical, chemical foam, carbon dioxide, or alcohol-resistant foam.

#### Unsuitable extinguishing agents: None

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

Combustion products may include carbon oxides or other toxic vapors. If in contact with metals toxic fumes may be released.

### Advice for firefighters:

#### Protective equipment:

Wear protective eyewear, gloves, and clothing. Refer to Section 8. Wear respiratory protection.

#### Additional information (precautions):

Thermal decomposition can produce poisoning chlorine. Hydrochloric acid reacts also with many organic materials with liberation of heat. Avoid inhaling gases, fumes, dust, mist, vapor, and aerosols. Avoid contact with skin, eyes, and clothing.

## SECTION 6: Accidental release measures

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

Ensure adequate ventilation. Ensure that air-handling systems are operational.

### Environmental precautions:

Should not be released into environment. Prevent from reaching drains, sewer, or waterway.

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

Always obey local regulations. If necessary use trained response staff or contractor. Evacuate personnel to safe areas. Containerize for disposal. Refer to Section 13. Keep in suitable closed containers for disposal. Soak up with inert absorbent material and dispose of as hazardous waste. Cover spill with soda ash or calcium carbonate. Mix and add water to form slurry. Wear protective eyewear, gloves, and clothing. Refer to Section 8.

### Reference to other sections: None

## SECTION 7: Handling and storage

### Precautions for safe handling:

Prevent formation of aerosols. Never use hot water and never add water to the acid. Do not allow contact between hydrochloric acid, metal, and organics. Follow good hygiene procedures when handling chemical materials. Refer to Section 8. Prevent contact with skin, eyes, and clothing. Follow proper disposal methods. Refer to Section 13. Do not eat, drink, smoke, or use personal products when handling chemical substances. Use only in well ventilated areas. Avoid splashes or spray in enclosed areas.

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

Store in a cool location. Keep away from food and beverages. Protect from freezing and physical damage. Store away from incompatible materials. Provide ventilation for containers. Keep container tightly sealed. 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.  
7647-01-0, Hydrochloric Acid, NIOSH: 5 ppm Ceiling; 7 mg/m<sup>3</sup> Ceiling.

#### Appropriate Engineering controls:

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor and mists below the applicable workplace exposure limits (Occupational Exposure Limits-OELs) indicated above. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of handling.

#### Respiratory protection:

Not required under normal conditions of use. Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. When necessary use NIOSH approved breathing equipment.

#### Protection of skin:

Select glove material impermeable and resistant to the substance. Select glove material based on rates of diffusion and degradation. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Use proper glove removal technique without touching outer surface. Avoid skin contact with used gloves. Wear protective clothing.

#### Eye protection:

Faceshield (8-inch minimum). Tightly fitting safety goggles.

#### General hygienic measures:

Perform routine housekeeping. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes, and clothing. Before re-wearing wash contaminated clothing.

### SECTION 9: Physical and chemical properties

<b>Appearance (physical state, color):</b>	Clear, colorless liquid.	<b>Explosion limit lower:</b> <b>Explosion limit upper:</b>	Non Explosive Non Explosive
<b>Odor:</b>	Pungent odor	<b>Vapor pressure:</b>	5.7mmHg @ 0C
<b>Odor threshold:</b>	0.3 - 14.9 mg/m <sup>3</sup>	<b>Vapor density:</b>	1.27 (Air=1)
<b>pH-value:</b>	< 1	<b>Relative density:</b>	1.0 - 1.2
<b>Melting/Freezing point:</b>	- 74 C	<b>Solubilities:</b>	Miscible.
<b>Boiling point/Boiling range:</b>	81.5 - 110 C	<b>Partition coefficient (n-octanol/water):</b>	Not Determined
<b>Flash point (closed cup):</b>	Not Applicable	<b>Auto/Self-ignition temperature:</b>	Not Determined

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<b>Evaporation rate:</b>	>1.00	<b>Decomposition temperature:</b>	Not Determined
<b>Flammability (solid,gaseous):</b>	non combustible	<b>Viscosity:</b>	a. Kinematic: Not Determined b. Dynamic: Not Determined
<b>Density:</b> Not Determined <b>Hydrochloric Acid:</b> MW is36.46			

### SECTION 10: Stability and reactivity

#### Reactivity:

Reacts violently with bases and is corrosive.

#### Chemical stability:

No decomposition if used and stored according to specifications.

#### Possible hazardous reactions:

Attacks many metals in the presence of water forming flammable explosive gas (hydrogen). Reacts violently with oxidants forming toxic gas (chlorine).

#### Conditions to avoid:

Incompatible materials.

#### Incompatible materials:

Bases, Amines, Alkali metals, Metals, permanganates (potassium permanganate), Fluorine, Metal acetylides, Hexalithium disilicide.

#### Hazardous decomposition products:

Hydrogen chloride gas. Carbon oxides.

### SECTION 11: Toxicological information

<b>Acute Toxicity:</b>		
<b>Inhalation:</b>	7647-01-0	LD50 Rat 3124 ppm/hour
<b>Oral:</b>	7647-01-0	LD50 Rat 238 - 277 mg/kg
<b>Dermal:</b>	7647-01-0	LD50 Rabbit >5010 mg/kg
<b>Chronic Toxicity:</b> No additional information.		
<b>Corrosion Irritation:</b>		
<b>Dermal:</b>	7647-01-0	Skin - rabbit Result: Causes burns.
<b>Ocular:</b>	7647-01-0	Eyes - rabbit Result: Corrosive to eyes
<b>Sensitization:</b>	No additional information.	

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<b>Single Target Organ (STOT):</b>	7647-01-0: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.
<b>Numerical Measures:</b>	No additional information.
<b>Carcinogenicity:</b>	No additional information.
<b>Mutagenicity:</b>	No additional information.
<b>Reproductive Toxicity:</b>	No additional information.

### SECTION 12: Ecological information

#### Ecotoxicity:

**7647-01-0:** Toxicity to fish LC50 - Gambusia affinis (Mosquito fish) - 282 mg/l - 96 h (Hydrochloric acid)

**Persistence and degradability:** None

**Bioaccumulative potential:** None

**Mobility in soil:** None

**Other adverse effects:** None

### SECTION 13: Disposal considerations

#### Waste disposal recommendations:

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). Contact a licensed professional waste disposal service to dispose of this material. Dispose of empty containers as unused product. Product or containers must not be disposed together with household garbage. Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations. Ensure complete and accurate classification.

### SECTION 14: Transport information

#### UN-Number:

1789

#### UN proper shipping name:

HYDROCHLORIC ACID

**Transport hazard class(es):** None

**Packing group:** II

**Environmental hazard:** None

**Transport in bulk:** Not Applicable

**Special precautions for user:** None

### SECTION 15: Regulatory information

#### United States (USA)

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

Acute

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

7647-01-0 Hydrochloric Acid.

#### RCRA (hazardous waste code):

None of the ingredients are listed.

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

None of the ingredients are listed.

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

7647-01-0 Hydrochloric Acid 5000 lbs.

#### 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).

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RCRResource Conservation and Recovery Act (USA).  
TSCAToxic Substances Control Act (USA).  
NPRINational Pollutant Release Inventory (Canada).  
DOTUS Department of Transportation.  
IATAInternational Air Transport Association.  
GHSGlobally Harmonized System of Classification and Labelling of Chemicals.  
ACGIHAmerican Conference of Governmental Industrial Hygienists.  
CASChemical Abstracts Service (division of the American Chemical Society).  
NFPANational Fire Protection Association (USA).  
HMISHazardous Materials Identification System (USA).  
WHMISWorkplace Hazardous Materials Information System (Canada).  
DNELDerived No-Effect Level (REACH).

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