

SECTION 1 – IDENTIFICATION

Product Identifier: 1.0M Hydrochloric Acid Solution
Ultra Pure Grade

Catalogue Number: 1432

Recommended use of the chemical and restrictions on use:
For R&D use only. Not for pharmaceutical, household or other uses.

Supplier Information:

Axil Scientific Pte Ltd
2 Tukang Innovation Grove
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Singapore 618305

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Apical Scientific Sdn Bhd
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Emergency phone number:

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SECTION 2 – HAZARDS IDENTIFICATION

GHS Classification:

Skin corrosion/irritation, Category 1B
Serious eye damage/eye irritation, Category 1

GHS Hazard Pictogram(s):



Signal Word: Danger

Hazards statements:

H314: Causes severe skin burns and eye damage
H318: Causes serious eye damage

Precautionary statements:

Prevention:

P260: Do not breathe mist, vapors, spray
P234: Keep only in original container.
P264: Wash thoroughly after handling.

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

Response

P302+P352: IF ON SKIN: Wash with plenty of soap and water.

P305+P351+P338+P310: 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.

P332+P313: If skin irritation occurs: Get medical advice/attention.

P362+P364: Take off contaminated clothing and wash before use.

P390: Absorb spillage to prevent material damage.

Storage

P406: Store in corrosive resistant stainless-steel container with a resistant inner liner.

SECTION 3 – COMPOSITION/ INFORMATION ON INGREDIENTS

Chemical Identity:	Hydrochloric acid
Synonyms:	muriatic acid
Molecular Formula:	HCl
Molecular Weight:	36.458 g/mol

Component	Classification	Concentration
Hydrochloric Acid		
CAS-No. 7647-01 EC-No. 231-595-7	Acute Tox. 4 (Oral), H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 STOT SE 3, H335	3 % - 4 %

SECTION 4 – FIRST-AID MEASURES

General Advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

Eye Contact

Immediately flush eyes with copious amounts of water for at least 15 minutes. Consult a physician.

Skin Contact

Immediately wash skin thoroughly with soap and copious amounts of water. Consult a physician.

Inhalation

Remove to fresh air. If not breathing, give artificial respiration or if breathing is difficult, give oxygen. Consult a physician.

Ingestion

Do not induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Most important symptoms and effects, both acute and delayed

Spasm, inflammation and edema of the larynx. Spasm, inflammation and edema of the bronchi. Pneumonitis, pulmonary edema, burning sensation, cough, wheezing, laryngitis, shortness of breath,

headache, nausea. Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin.

Indication of immediate medical attention and special treatment needed

Data not available.

SECTION 5 – FIRE-FIGHTING MEASURES

Extinguishing Media

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

Special Exposure Hazards

Hydrogen chloride gas.

Special Fire-fighting Procedures

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Personal Precautions

Prevent skin/eye contact. Avoid breathing vapours, mist or gas. Evacuate personnel to safe areas.

Environmental Precautions

Prevent further leakage or spillage if safe to do so. Do not allow material into sewers and drainage systems.

Methods for Cleaning Up

Soak up with inert absorbent material and neutralizing material. Dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

SECTION 7 – HANDLING AND STORAGE

Precautions for safe handling

Prevent skin/eye contact. Use personal protective equipment. Avoid dust formation. Ensure adequate ventilation. Avoid breathing dust. Wash thoroughly after handling. Remove contaminated clothing and wash before reuse.

Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

SECTION 8 – EXPOSURE CONTROLS/ PERSONAL PROTECTION

Occupational Exposure Limits

Component	CAS-No.	Value	Control parameters	Basis
Hydrochloric acid	7647-01	PEL (short-term)	5 ppm 7.5 mg/m ³	Singapore. Workplace Safety and Health Act – First Schedule Permissible Exposure Limits of Toxic Substances

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice.

Eye/ Face Protection

Tightly fitting safety goggles. Face shield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin/ Hand Protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body protection

Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory Protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Do not let product enter drains

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

- | | | |
|----|------------------------|---------------------------|
| a) | Appearance | Clear colourless solution |
| b) | Odour | Not available |
| c) | Odour Threshold | Not available |
| d) | pH | Not available |

e)	Melting/freezing point	Not available
f)	Initial boiling point and boiling range	Not available
g)	Flash point	Not available
h)	Evaporation rate	Not available
i)	Flammability (solid, gas)	Not available
j)	Upper/lower flammability or explosive limits	Not available
k)	Vapour pressure	Not available
l)	Vapour density	Not available
m)	Relative density	Not available
n)	Water solubility	Not available
o)	Partition coefficient: n-octanol/water	Not available
p)	Autoignition temperature	Not available
q)	Decomposition temperature	Not available
r)	Viscosity	Not available

SECTION 10 – STABILITY AND REACTIVITY

Reactivity

Data not available.

Chemical stability

Stable.

Possibility of hazardous reactions

Data not available.

Conditions to avoid

Data not available.

Incompatible material

Metals, oxidizing agents and strong bases.

Hazardous decomposition products

Data not available.

SECTION 11 – TOXICOLOGICAL INFORMATION

Acute toxicity

Data not available.

Skin corrosion/irritation

Data not available.

Serious eye damage/eye irritation

Data not available.

Respiratory or skin sensitization

Data not available.

Germ cell mutagenicity

Data not available.

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity

Data not available.

Specific target organ toxicity – single exposure

Data not available.

Specific target organ toxicity – repeated exposure

Data not available.

Aspiration hazard

Data not available.

Additional Information

RTECS: Data not available

SECTION 12 – ECOLOGICAL INFORMATION

Toxicity

Data not available.

Persistence and degradability

Data not available.

Bioaccumulative potential

Data not available.

Mobility in soil

Data not available.

Other adverse effect

Harmful to aquatic life.

SECTION 13 – DISPOSAL CONSIDERATIONS

Product

Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging

Dispose off as unused product.

SECTION 14 – TRANSPORT INFORMATION

UN Number

ADR/RID: 1789

IMDG: 1789

IATA-DGR: 1789

UN Proper Shipping Name:

ADR/RID: Hydrochloric Acid

IMDG: Hydrochloric Acid

IATA-DGR: Hydrochloric Acid

Transport Hazard Class(es)

ADR/RID: 8

IMDG: 8

IATA-DGR: 8

Packing Group

ADR/RID: III

IMDG: III

IATA-DGR: III

Environmental Hazards

ADR/RID: no

IMDG: marine pollutant: no

IATA-DGR: no

Special Precaution for Users

Data not available

SECTION 15 – REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

Data not available

SECTION 16 – OTHER INFORMATION

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The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. Axil Scientific Pte Ltd shall not be held liable for any damage resulting from handling or from contact with the above product.