Hydrochloric acid (cas 7647-01-0) MSDS

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifiers
Product name: Hydrogen chloride solution, 1.0 M
Product Number: 294837
Brand: Anonymous
CAS-No.: 7647-01-0

1.2 Relevant identified uses of the substance or mixture and uses advised against
Identified uses: Laboratory chemicals, Manufacture of substances

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]
- Flammable liquids (Category 2)
- Acute toxicity, Oral (Category 4)
- Specific target organ toxicity - single exposure (Category 3)

Classification according to EU Directives 67/548/EEC or 1999/45/EC
- Highly flammable. Harmful if swallowed. May form explosive peroxides. Repeated exposure may cause skin dryness or cracking. Vapours may cause drowsiness and dizziness.

2.2 Label elements
Labelling according Regulation (EC) No 1272/2008 [CLP]
Pictogram

Signal word: Danger
Hazard statement(s)
H225: Highly flammable liquid and vapour.
H302: Harmful if swallowed.
H336: May cause drowsiness or dizziness.
Precautionary statement(s)
P210: Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P261: Avoid breathing vapours.

Supplemental Hazard information (EU)
EUH019: May form explosive peroxides.
EUH066: Repeated exposure may cause skin dryness or cracking.

Hazard symbol(s)

R-phrase(s)
R11: Highly flammable.
R19: May form explosive peroxides.
R22: Harmful if swallowed.
R66: Repeated exposure may cause skin dryness or cracking.
R67: Vapours may cause drowsiness and dizziness.

S-phrase(s)
S16: Keep away from sources of ignition - No smoking.

2.3 Other hazards - none

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diethyl ether</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAS-No.</td>
<td>60-29-7</td>
<td></td>
</tr>
<tr>
<td>EC-No.</td>
<td>200-467-2</td>
<td></td>
</tr>
</tbody>
</table>

Formula: HCl
Molecular Weight: 36.46 g/mol
Index-No. 603-022-00-4  
H336, EUH019, EUH066  
F+, Xn, R12 - R19 - R22 - R66  
- R67

Hydrochloric acid
CAS-No. 7647-01-0  
EC-No. 231-595-7  
Index-No. 017-002-01-X  
Skin Corr. 1B; STOT SE 3; <5%

For the full text of the H-Statements and R-Phrases mentioned in this Section, see Section 16

4. FIRST AID MEASURES
4.1 Description of first aid measures
General advice
Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Wash off with soap and plenty of water. Consult a physician.

In case of eye contact
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

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

4.2 Most important symptoms and effects, both acute and delayed
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

4.3 Indication of any immediate medical attention and special treatment needed
No data available

5. FIREFIGHTING MEASURES
5.1 Extinguishing media
Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture
Carbon oxides, Hydrogen chloride gas

5.3 Advice for firefighters
Wear self contained breathing apparatus for fire fighting if necessary.

5.4 Further information
Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES
6.1 Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

6.2 Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up
Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

6.4 Reference to other sections
For disposal see section 13.

7. HANDLING AND STORAGE
7.1 Precautions for safe handling
Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. 
Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

7.2 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.

Air sensitive. Light sensitive.
7.3 Specific end uses
no data available

8. EXPOSURE CONTROLS/PERSONAL PROTECTION
8.1 Control parameters
Components with workplace control parameters
8.2 Exposure controls
Appropriate engineering controls
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

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

Skin 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.

Body Protection
Complete suit protecting against chemicals, Flame retardant antistatic protective clothing, 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).

9. PHYSICAL AND CHEMICAL PROPERTIES
9.1 Information on basic physical and chemical properties
a) Appearance Form: liquid
b) Odour no data available
c) Odour Threshold no data available
d) pH no data available
e) Melting point/freezing point no data available
f) Initial boiling point and boiling range no data available
g) Flash point -40 °C - closed cup
h) Evaporation rate no data available
i) Flammability (solid, gas) no data available
j) Upper/lower flammability or explosive limits no data available
k) Vapour pressure no data available
l) Vapour density no data available
m) Relative density 0,731 g/mL at 25 °C
n) Water solubility no data available
o) Partition coefficient: n-octanol/water no data available
p) Autoignition temperature no data available
q) Decomposition temperature no data available
r) Viscosity no data available
9.2 Other safety information
no data available

10. STABILITY AND REACTIVITY

10.1 Reactivity
no data available

10.2 Chemical stability
no data available

10.3 Possibility of hazardous reactions
no data available

10.4 Conditions to avoid

10.5 Incompatible materials
Strong oxidizing agents, Bases, Amines, Alkali metals, Copper, copper alloys

10.6 Hazardous decomposition products
Other decomposition products - no data available

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity
no data available

Skin corrosion/irritation
no data available

Serious eye damage/eye irritation
no data available

Respiratory or skin sensitization
no data available

Germ cell mutagenicity
no data available

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

Reproductive toxicity
no data available

Specific target organ toxicity - single exposure
no data available

Specific target organ toxicity - repeated exposure
no data available

Aspiration hazard
no data available

Potential health effects

Inhalation
Vapours may cause drowsiness and dizziness. Harmful if inhaled. Causes respiratory tract irritation.

Ingestion
Harmful if swallowed.

Skin
May be harmful if absorbed through skin. Causes skin irritation.

Eyes
Causes eye burns.

Signs and Symptoms of Exposure
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Additional Information
RTECS: Not available

12. ECOLOGICAL INFORMATION

12.1 Toxicity
no data available

12.2 Persistence and degradability
no data available

12.3 Bioaccumulative potential
no data available
12.4 Mobility in soil
no data available

12.5 Results of PBT and vPvB assessment
no data available

12.6 Other adverse effects
no data available

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods
Product
Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

14.1 UN number
ADR/RID: 2924  IMDG: 2924  IATA: 2924

14.2 UN proper shipping name
ADR/RID: FLAMMABLE LIQUID, CORROSIVE, N.O.S. (Diethyl ether, Hydrochloric acid)
IMDG: FLAMMABLE LIQUID, CORROSIVE, N.O.S. (Diethyl ether, Hydrochloric acid)
IATA: Flammable liquid, corrosive, n.o.s. (Diethyl ether, Hydrochloric acid)

14.3 Transport hazard class(es)
ADR/RID: 3 (8)  IMDG: 3 (8)  IATA: 3 (8)

14.4 Packaging group
ADR/RID: I  IMDG: I  IATA: I

14.5 Environmental hazards
ADR/RID: no  IMDG Marine pollutant: no  IATA: no

14.6 Special precautions for user
no data available

15. REGULATORY INFORMATION
This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
no data available

15.2 Chemical Safety Assessment
no data available

16. OTHER INFORMATION

Text of H-code(s) and R-phrase(s) mentioned in Section 3

Acute Tox.  Acute toxicity
EUH019  May form explosive peroxides.
EUH066  Repeated exposure may cause skin dryness or cracking.
Flam. Liq.  Flammable liquids
H224  Extremely flammable liquid and vapour.
H302  Harmful if swallowed.
H314  Causes severe skin burns and eye damage.
H335  May cause respiratory irritation.
H336  May cause drowsiness or dizziness.
Skin Corr.  Skin corrosion
STOT SE  Specific target organ toxicity - single exposure
C  Corrosive
F+  Extremely flammable
R12  Extremely flammable.
R19  May form explosive peroxides.
R22  Harmful if swallowed.
R34  Causes burns.
R37  Irritating to respiratory system.
R66  Repeated exposure may cause skin dryness or cracking.
R67  Vapours may cause drowsiness and dizziness.
Xn  Harmful

Further information
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 this document is based on the resent state of our knowledge and is applicable to the product with regard to appropriate safety precautions.
It does not represent any guarantee of the properties of the product. Guidechem shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.