M A T E R I A L  S A F E T Y  D A T A  S H E E T

STATEMENT OF HAZARDOUS NATURE:
Hazardous according to criteria of Worksafe Australia

IDENTIFICATION
Product Name: Hydrochloric Acid 32%
Other Names:
- Hydrochloric Acid 10 – 36%
- Hydrochloric Acid 30 % Picopur
- Sun Hydrochloric Acid
- Pulsar Hydrochloric Acid
- Hydrochloric Acid
- Hydrochloric Acid Diggers
- Hydrochloric Acid (Gov)
- Hydrochloric Acid N R Diggers
- R70 Hydrochloric Acid
- Hydrochloric Acid 36%
- Hydrochloric Acid – Refined
- Diggers Hydrochloric Acid
- Diggers Spirits of Salts
- Muriatic Acid
- Spirit of Salt

U N Number: 1789
Dangerous Goods & Sub Risk Class: 8
Hazchem Code: 2R
Packaging Group: II
Poison Schedule (S.U.S.D.P.): S6
Product Use: Production of chlorides, boiler scale removal, laboratory reagent, general purpose food additive and used for pickling and cleaning metals.

PHYSICAL DATA
Physical Description & Properties:
Appearance - Colourless to yellow, clear liquid, characteristic fumes. Tendency to fume at higher concentrations.
Change in Physical State:
- Melting Point: -46.2 degrees C
- Boiling Point: 108.6 degrees C
- Vapour pressure: 17.8mm Hg at 20 degrees C
- Specific Gravity: 1.16
- Flashpoint: Non Flammable
- Flamm Limit LEL: No Data
OTHER PROPERTIES:

<table>
<thead>
<tr>
<th>Component</th>
<th>Hydrogen Chloride Gas</th>
</tr>
</thead>
<tbody>
<tr>
<td>PH Value</td>
<td>&lt; 1</td>
</tr>
<tr>
<td>Form</td>
<td>Liquid</td>
</tr>
<tr>
<td>Formula</td>
<td>HCI</td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>36.46</td>
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INGREDIENTS:

Solution of an acrylic polymer in methacrylic acid esters/acrylic acid esters.

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<td>Hydrochloric Acid</td>
<td>7647-01.0</td>
<td>10 – 36%</td>
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<tr>
<td>Water to make total of 100%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

OTHER PROPERTIES:

Volatile Component: Hydrogen Chloride Gas
PH Value: < 1
Form: Liquid
Formula: HCI
Molecular Weight: 36.46

INGREDIENTS:

Solution of an acrylic polymer in methacrylic acid esters/acrylic acid esters.

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Heat Health Information

Acute Effects:
Swallowed: May cause severe burns to the mouth, throat and stomach. Will cause severe damage to the mucous membranes.
Acute – Eye: Highly corrosive to eyes. Contamination of eyes can result in permanent injury. High concentrations of vapours will cause irritation.
Acute – Skin: Contact with skin will result in severe irritation. Harmful in contact with the skin. Corrosive to skin – may cause skin burns.
Acute – Inhaled: The vapour is an irritant to the mucous membranes and respiratory tract. Possible harmful corrosive effects. An asphyxiant; exposure to high concentrations will cause suffocation.
Chronic: Prolonged exposure may cause bronchitis, pneumonia and pulmonary oedema.

FIRST AID:

Swallowed - Poisons information Centres in each State Capital city can provide additional assistance for scheduled poisons. Rinse mouth thoroughly with water immediately. Give water or milk to drink. DO NOT induce vomiting. Seek immediate medical assistance. Vomiting may cause further damage to the throat.

Eyes - Immediately irrigate with copious quantities of water for at least 15 minutes. Eyelids to be held open. Seek immediate medical assistance.
Skin:
Wash affected areas with copious quantities of water immediately.
If irritation occurs seek medical advice.
If swelling, redness, blistering or irritation occurs seek medical advice.
Remove contaminated clothing and wash before re-use.
Treat skin and clothing with 1% sodium bicarbonate to neutralise acid residues.

Inhaled:
Remove victim from exposure – avoid becoming a casualty.
Allow patient to assume most comfortable position and keep warm. Keep at rest until fully recovered.
If breathing laboured and patient cyanotic (blue), ensure airways are clear and have qualified person give oxygen through face mask. If breathing has stopped apply artificial respiration at once.
In the event of cardiac arrest apply external cardiac massage.
Seek medical attention.

ADVICE TO DOCTOR:
Treat symptomatically as for strong acids.

Emergency number
Product number to be identified
Bus: (03) 9720 8777
AH: (03) 9727 2299

PRECAUTIONS FOR USE

Exposure Limits:
<table>
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<tr>
<th>Name</th>
<th>STEL(mg/m^3)</th>
<th>STEL(ppm)</th>
<th>TWA(mg/m^3)</th>
<th>TWA(ppm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrochloric Acid</td>
<td>7.5</td>
<td>5</td>
<td></td>
<td></td>
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Other Exposure:
TLV/TWA: 7mg/m^3, 5 ppm; Worksafe aust. – peak limitation – is the concentration that should not be exceeded even instantaneously. Odour threshold 1 – 5 ppm IDLH Value: 100 ppm.

Engineering Controls:
Maintain concentration below recommended exposure limit. Use with adequate ventilation. Local exhaust ventilation usually required. Keep containers in a well ventilated rea.

PERSONAL PROTECTION:
Protective equipment: The following personal protective equipment must be worn.
PVC, Neoprene or nitrile rubber gloves. Safety glasses, goggles or faceshield as appropriate. Overalls or similar protective apparel. Wearing of the following personal protective equipment may be advisable.
Splash apron, rubber boots. In confined spaces the following are recommended; Combination particulate/gas respirator, Class B, (inorganic vapour).

FLAMMABILITY:
Non flammable.
Contact with strong alkalis may generate heat.
SAFE HANDLING INFORMATION:

Storage Precautions:
- Store in a cool place.
- Store in a well ventilated area.
- Store away from oxidising agents.
- Store away from foodstuffs.
- Keep containers securely sealed and protected against physical damage. Not to be loaded with Class 1, 4.3, 5.1, 5.2, 6*, 7, Foodstuff and foodstuff empties. (* where the Class 6 substance is a cyanide and the Class 8 substance is an acid).
- There may be instances with the technical grade products where there may be contamination due to hydrofluoric acid.
- Care should be taken especially where the material may be stored or used in glass vessels.

Proper Shipping Name: Hydrochloric Acid
EPG Number: 8A1
IERG Number: 40
Packaging Method: 5.9.8RT8

SPILLS AND DISPOSAL:

Spills and Disposal:
- Clear area of all unprotected personnel.
- For large spills notify Emergency Services.
- Contain – prevent contamination of drains and waterways.
- Use absorbent (soil or sand, sawdust, inert material, vermiculite).
- Collect and seal in properly labelled drums for disposal.
- Neutralise remaining product with lime or slaked ash, adjusting pH to 6-10.
- Flush to sewer as a greatly diluted solution.
- Well full protective clothing (see Personal Protection/Ventilation Section).
- Self contained breathing apparatus may be needed for prolonged periods of exposure.
- Refer to appropriate State Waste Disposal Authority.
- Observe local regulations.
- There may be instances with the technical grade products where there may be contamination due to hydrofluoric acid.
- Care should be taken especially where the material may be stored or used in glass vessels.

FIRE/EXPLOSION HAZARD:

Fire Explosion: Evacuate immediate area.
Hazard: Fire fighters to wear self-contained breathing apparatus if risk of exposure to vapour or products of combustion.
- Decomposes on heating emitting toxic fumes.

Hazardous Decomposition Products:
- Hydrogen Chloride
- Heating can cause expansion or decomposition leading to violent rupture of containers.
- Use water to keep substance cool.

Extinguish fire with the following:
- Use water spray.

Hazchem Code: 2R
OTHER INFORMATION:

**Toxicology:**
Oral LD50 (rabbit) mg/kg Inhalation LC50 (human): 1300 ppm/30 minutes
Inhalation LC50 (human: 3000 ppm/5 minutes

**Environment Protection:**
Avoid contaminating airways.
The product is strongly acidic and hence may react with metals to produce hydrogen, a flammable gas.

**Risk Statement:**
R35 causes severe burns
R37 Irritating to the respiratory system.

**Safety Statement:**
S26 In case of contact with eyes, rinse immediately with plenty of water and contact a doctor or Poisons Information Centre.
S44 if you feel unwell, contact a doctor or Poisons Information centre immediately. (show label where possible).
S7/9 Keep container lid tightly closed in a well ventilated place.

**Hazard Category References:**
Very corrosive.
‘Threshold Limit Values for 1987-88’ American Conference of Governmental Industrial Hygienists.

**Empirical Formula & Structural Formula:**
HCL

**CONTACT POINT:**

Contact Point: Mr. Craig Jones (03) 9720 8777
n.a. = Not Applicable