Material Safety Data Sheet
Hydrochloric Acid Solutions, 5%-50% v/v, 0.5N-6.25N

Section 1 - Chemical Product and Company Identification

MSDS Name:
Hydrochloric Acid Solutions, 5%-50% v/v, 0.5N-6.25N

Catalog Numbers:
LC15050, LC15070, LC15090, LC15100, LC15130, LC15280, LC15290, LC15300, LC15320, LC15330, LC15340, LC15345, LC15360, LC15370, LC15380

Synonyms:
Muriatic acid, chlorohydric acid

Company Identification:
LabChem Inc
200 William Pitt Way
Pittsburgh, PA 15238

Company Phone Number:
(412) 826-5230

Emergency Phone Number:
(800) 424-9300

CHEMTREC Phone Number:
(800) 424-9300 or
011-703-527-3887

Section 2 – Composition, Information on Ingredients

<table>
<thead>
<tr>
<th>CAS#</th>
<th>Chemical Name:</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>7732-18-5</td>
<td>Water</td>
<td>&gt;79</td>
</tr>
<tr>
<td>7647-01-0</td>
<td>Hydrochloric Acid</td>
<td>1.8-20.7</td>
</tr>
</tbody>
</table>

Section 3 - Hazards Identification

Emergency Overview

Appearance: Clear, colorless liquid

Danger! Corrosive. Causes severe eye and skin burns. Causes severe gastrointestinal and respiratory tract burns. May be fatal if inhaled or swallowed. Corrosive to metal.

Target Organs: Eyes, skin, respiratory and gastrointestinal systems, teeth.

Potential Health Effects

Eye:
Causes severe burns with irreversible eye injury. Contact with vapor or mist may cause severe irritation and burns.

Skin:
Causes severe burns and ulceration. The severity of injury depends on the concentration of the solution and the duration of exposure.
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Ingestion:
Causes severe digestive tract burns with abdominal pain, vomiting, and possible death. May cause corrosion and permanent tissue destruction of the esophagus and digestive tract.

Inhalation:
May cause severe irritation or burns of the respiratory tract with sore throat, coughing, shortness of breath and delayed lung edema.

Chronic:
Prolonged or repeated skin contact may cause dermatitis. Repeated exposure may cause erosion of teeth. Repeated exposure to low concentrations of HCl vapor or mist may cause bleeding of nose and gums. Chronic bronchitis and gastritis have also been reported.

Section 4 - First Aid Measures

Eyes:
Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower lids until no evidence of chemical remains. Get medical aid at once.

Skin:
Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid at once.

Ingestion:
Do not induce vomiting. Give conscious victim 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid at once.

Inhalation:
Move victim to fresh air immediately. If breathing is difficult, administer oxygen. Give artificial respiration if necessary, using a mechanical device such as a bag and mask or one-way valve. Get medical aid at once.

Notes to Physician:
Do NOT use sodium bicarbonate in an attempt to neutralize the acid.

Section 5 - Fire Fighting Measures

General Information:
As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Water runoff can cause environmental damage. Dike and collect water used to fight fire. Not flammable, but reacts with most metals to form flammable hydrogen gas. Use water spray to keep fire-exposed containers cool. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas. Containers may explode when heated.

Extinguishing Media:
For small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam.

Autoignition Temperature:
Not applicable.

Flash Point:
Not applicable.

NFPA Rating:
Health- 3, Flammability- 0, Instability- 1

Explosion Limits:
Lower: n/a Upper: n/a
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Section 6 - Accidental Release Measures

General Information:
Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks:
Absorb spill with inert material such as sand, vermiculite, or diatomaceous earth, and transfer to a suitable container labeled for later disposal. Label reclaimed spill material as corrosive. Material may be carefully neutralized to pH 7 with sodium bicarbonate or lime.

Section 7 - Handling and Storage

Handling:
Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Discard contaminated shoes. Do not get in eyes, on skin, or on clothing. Do not breathe vapor or mist. Use only with adequate ventilation or respiratory protection. Contents may develop pressure upon prolonged storage. Use caution when opening. Do not use with metal spatula or other metal items.

Storage:
Store in a cool, dry, well-ventilated area away from incompatible substances. Corrosives area. Do not store in metal containers.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls:
Facilities using or storing this material should be equipped with an eyewash and safety shower. Provide local exhaust or general dilution ventilation to keep airborne levels below the permissible exposure limits.

Exposure Limits:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>NIOSH</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>None listed</td>
<td>None listed</td>
<td>None listed</td>
</tr>
<tr>
<td>Hydrochloric acid</td>
<td>2 ppm Ceiling</td>
<td>5 ppm Ceiling, 7 mg/m3 Ceiling</td>
<td>5 ppm Ceiling, 7 mg/m3 Ceiling</td>
</tr>
</tbody>
</table>

OSHA Vacated PELs:
Hydrochloric acid: 5 ppm Ceiling, 7 mg/m3 Ceiling

Personal Protective Equipment

Eyes:
Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133. Do not wear contact lenses when working with chemicals.

Skin:
Wear appropriate protective gloves to prevent skin exposure.

Clothing:
Wear appropriate protective clothing to prevent skin exposure.
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**Respirators:**
Follow the OSHA respirator regulations found in 29 CFR 1910.134. Always use a NIOSH-approved respirator when necessary.

### Section 9 - Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Liquid</td>
</tr>
<tr>
<td>Color</td>
<td>Colorless</td>
</tr>
<tr>
<td>Odor</td>
<td>Pungent</td>
</tr>
<tr>
<td>pH</td>
<td>Acidic</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>Not available</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>1.27 (air=1)</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Not available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not available</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>Not available</td>
</tr>
<tr>
<td>Freezing/Melting Point</td>
<td>Not available</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>Not available</td>
</tr>
<tr>
<td>Solubility in water</td>
<td>Soluble</td>
</tr>
<tr>
<td>Specific Gravity/Density</td>
<td>1.0 – 1.2</td>
</tr>
<tr>
<td>Molecular Formula</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

### Section 10 - Stability and Reactivity

**Chemical Stability:**
Stable under normal temperatures and pressures.

**Conditions to Avoid:**
Incompatible materials, excess heat.

**Incompatibilities with Other Materials:**
Metals, strong oxidizing agents, strong reducing agents, bases.

**Hazardous Decomposition Products:**
Hydrogen chloride, hydrogen gas.

**Hazardous Polymerization:**
Has not been reported.

### Section 11 - Toxicological Information

**RTECS:**
CAS# 7732-18-5: ZC0110000.
CAS# 7647-01-0: MW4025000, MW4031000.

**LD50/LC50:**
CAS# 7732-18-5:
Oral, rat: LD50 = >90 mL/kg
CAS# 7647-01-0:
Inhalation, rat: LC50 = 3124 ppm/1H
Dermal, rabbit: LD50 = 5010 mg/kg
Oral, rat: LD50 = 700 mg/kg
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Carcinogenicity:
CAS# 7732-18-5: Not listed as a carcinogen by ACGIH, IARC, NIOSH, NTP, OSHA, or California Proposition 65.
CAS# 7647-01-0: Not listed as a carcinogen by ACGIH, IARC, NIOSH, NTP, OSHA, or California Proposition 65.

Epidemiology:
No information found

Teratogenicity:
See actual entry in RTECS for complete information.

Reproductive:
See actual entry in RTECS for complete information.

Mutagenicity:
See actual entry in RTECS for complete information.

Neurotoxicity:
No information found

Section 12 - Ecological Information

Environmental: Will exhibit extensive evaporation from soil surfaces. Upon transport through the soil, hydrochloric acid will dissolve some of the soil materials (especially those with carbonate bases) and the acid will neutralize to some degree.

Section 13 - Disposal Considerations

Dispose of in accordance with Federal, State, and local regulations.

Section 14 - Transport Information

US DOT
Shipping Name: Hydrochloric acid solution
Hazard Class: 8
UN Number: UN1789
Packing Group: PG II

Section 15 - Regulatory Information

US Federal
TSCA:
CAS# 7732-18-5 is listed on the TSCA Inventory.
CAS# 7647-01-0 is listed on the TSCA Inventory.

SARA Reportable Quantities (RQ):
CAS# 7647-01-0: final RQ = 5000 pounds (2270 kg)

CERCLA/SARA Section 313:
This material contains Hydrogen chloride (CAS# 7647-01-0, 1.8-20.7%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.
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OSHA - Highly Hazardous:
CAS# 7647-01-0 is considered highly hazardous by OSHA.

US State
State Right to Know:
Hydrochloric acid can be found on the following state Right-to-Know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts.

California Regulations:
None.

European/International Regulations
Canadian DSL/NDSL:
CAS# 7732-18-5 is listed on Canada's DSL List.
CAS# 7647-01-0 is listed on Canada's DSL List.

Canada Ingredient Disclosure List:
CAS# 7732-18-5 is not listed on Canada's Ingredient Disclosure List.
CAS# 7647-01-0 is listed on Canada's Ingredient Disclosure List.

Section 16 - Other Information

MSDS Creation Date: November 1, 1997
Revision Date: August 24, 2011

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