Safety Data Sheet

SECTION 1: Identification

1.1. Product Identifier

   Trade Name or Designation: Hydrochloric Acid, 0.1142 Normal, for Kjeldahl Analysis of Proteins

   Product Number: 3610

   Other Identifying Product Numbers: 3610-1, 3610-5

1.2. Recommended Use and Restrictions on Use

   General Laboratory Reagent

1.3. Details of the Supplier of the Safety Data Sheet

   Company: Ricca Chemical Company

   Address: 448 West Fork Drive
             Arlington, TX 76012 USA

   Telephone: 888-467-4222

1.4. Emergency Telephone Number (24 hr)

   CHEMTREC (USA) 800-424-9300
   CHEMTREC (International) 1+ 703-527-3887

SECTION 2: Hazard(s) Identification

2.1. Classification of the Substance or Mixture (in accordance with OSHA HCS 29 CFR 1910.1200)

   For the full text of the Hazard and Precautionary Statements listed below, see Section 16.

<table>
<thead>
<tr>
<th>Hazard Class</th>
<th>Category</th>
<th>Hazard Statement</th>
<th>Precautionary Statements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respiratory Sensitizer</td>
<td>Category 1</td>
<td>H334</td>
<td>P261, P285, P304+P341, P342+P311, P501</td>
</tr>
<tr>
<td>Hazardous to the Aquatic Environment (Acute)</td>
<td>Category 3</td>
<td>H402</td>
<td>P273, P501</td>
</tr>
</tbody>
</table>

2.2. GHS Label Elements

   Pictograms:

   Signal Word: **Danger**
Safety Data Sheet

Hazard Statements:

<table>
<thead>
<tr>
<th>Hazard Number</th>
<th>Hazard Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>H334</td>
<td>May cause allergy or asthma symptoms or breathing difficulties if inhaled.</td>
</tr>
<tr>
<td>H402</td>
<td>Harmful to aquatic life.</td>
</tr>
</tbody>
</table>

Precautionary Statements:

<table>
<thead>
<tr>
<th>Precautionary Number</th>
<th>Precautionary Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>P261</td>
<td>Avoid breathing dust, fumes or mist.</td>
</tr>
<tr>
<td>P273</td>
<td>Avoid release to the environment.</td>
</tr>
<tr>
<td>P285</td>
<td>In case of inadequate ventilation wear respiratory protection.</td>
</tr>
<tr>
<td>P304+P341</td>
<td>IF INHALED: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.</td>
</tr>
<tr>
<td>P342+P311</td>
<td>If experiencing respiratory symptoms: Call a POISON CENTER or physician.</td>
</tr>
<tr>
<td>P501</td>
<td>Dispose of contents in accordance with local, state, federal and international regulations.</td>
</tr>
</tbody>
</table>

2.3. WHMIS Classification

WHMIS classification is not included based on the recommended option (Option 4) found in the Canada Gazette Part II, Vol. 149, No.3, page 458

2.4. Hazards not Otherwise Classified or Covered by GHS

Data not available.

SECTION 3: Composition / Information on Ingredients

3.1. Components of Substance or Mixture

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Formula</th>
<th>Molecular Weight</th>
<th>CAS Number</th>
<th>Weight%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>H₂O</td>
<td>18.01 g/mol</td>
<td>7732-18-5</td>
<td>99.59%</td>
</tr>
<tr>
<td>Hydrochloric Acid</td>
<td>HCl</td>
<td>36.46 g/mol</td>
<td>7647-01-0</td>
<td>0.41%</td>
</tr>
</tbody>
</table>

SECTION 4: First-Aid Measures

4.1. General First Aid Information

**Eye Contact:** May cause slight irritation.

**Inhalation:** IF INHALED: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.

**Skin Contact:** May cause slight irritation.

**Ingestion:** Dilute with water or milk. Do not induce vomiting. Call a physician if necessary.
Safety Data Sheet

4.2. Most Important Symptoms and Effects, Acute and Delayed

These items are mildly corrosive and should be handled with care. Wash areas of contact with water. Does not present any significant health hazards at these low concentrations. EYE CONTACT: May cause slight irritation. SKIN CONTACT: May cause slight irritation.

4.3. Medical Attention or Special Treatment Needed

Not expected to require special treatment.

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing Media

Use any means suitable for extinguishing surrounding fire (water or water spray). Neutralize with soda ash or slaked lime.

5.2. Specific Hazards Arising from the Substance or Mixture

Not considered to be a fire or explosion hazard. May react with metals to release flammable Hydrogen gas.

5.3. Special Protective Equipment for Firefighters

Use protective clothing and breathing equipment appropriate for the surrounding fire.

SECTION 6: Accidental Release Measures

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

In case of inadequate ventilation wear respiratory protection.

6.2. Cleanup and Containment Methods and Materials

Cover the spill with Sodium Carbonate or a soda ash-slaked lime mixture (50:50). Mix and add water to form slurry. Decant the liquid to the drain with excess water. Treat the solid residue as normal refuse. Wash site with soda ash solution. Always dispose of in accordance with local regulations.

SECTION 7: Handling and Storage

7.1. Precautions for Safe Handling and Storage Conditions

As with all chemicals, wash hands thoroughly after handling. Avoid contact with eyes and skin. Protect from freezing and physical damage.

SECTION 8: Exposure Controls / Personal Protection

8.1. Control Parameters

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Limit Type</th>
<th>Country</th>
<th>Exposure Limit</th>
<th>Information Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrochloric Acid (7647-01-0)</td>
<td>TLV-Ceiling</td>
<td>USA</td>
<td>2 ppm Ceiling</td>
<td>ACGIH - Threshold Limit Values - Ceilings (TLV-C)</td>
</tr>
<tr>
<td>Hydrochloric Acid (7647-01-0)</td>
<td>PEL-Ceiling</td>
<td>USA</td>
<td>5 ppm Ceiling</td>
<td>U.S. - OSHA - Final PELs - Ceiling Limits</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7 mg/m³ Ceiling</td>
</tr>
</tbody>
</table>

8.2. Exposure Controls

**Engineering Controls:** No specific controls are needed. Normal room ventilation is adequate.

**Respiratory Protection:** In case of inadequate ventilation wear respiratory protection. Normal room ventilation is adequate.
8.3. Personal Protective Equipment
In case of inadequate ventilation wear respiratory protection. Normal room ventilation is adequate. Chemical resistant gloves. Safety glasses or goggles.

SECTION 9: Physical and Chemical Properties

9.1. Basic Physical and Chemical Properties

- **Appearance:** Colorless liquid
- **Physical State:** Liquid
- **Odor:** Data not available
- **Odor Threshold:** Data not available
- **pH:** < 1
- **Melting/Freezing Point:** 0.0°C
- **Initial Boiling Point /Range:** 100°C - 100°C
- **Flash Point:** Data not available
- **Evaporation Rate:** Data not available
- **Flammability:** Data not available
- **Flammability/Explosive Limits:** Data not available
- **Vapor Pressure:** Data not available
- **Vapor Density:** Data not available
- **Relative Density:** 1.00
- **Solubility:** Miscible
- **Partition Coefficient** (n-Octanol/Water): Data not available
- **Auto-Ignition Temperature:** Data not available
- **Decomposition Temperature:** Data not available
- **Viscosity:** Data not available
- **Explosive Properties:** Data not available
- **Oxidizing Properties:** Data not available

SECTION 10: Stability and Reactivity

10.1. Reactivity and Chemical Stability
Stable under normal conditions of use and storage.

10.2. Possibility of Hazardous Reactions
Data not available.
10.3. Conditions to Avoid and Incompatible Materials
Most metals, Alkalis, active metals, Cyanides, Sulfides, Sulfites, Metal Oxides, Formaldehyde.

10.4. Hazardous Decomposition Products
Will not occur.

SECTION 11: Toxicological Information

11.1. Information on Toxicological Effects

Acute Toxicity - Oral Exposure:
Not applicable.

Acute Toxicity - Dermal Exposure:
Not applicable.

Acute Toxicity - Inhalation Exposure:
Not applicable.

Acute Toxicity - Other Information:
LD50, Oral, Rabbit (Hydrochloric Acid) 900 mg/kg; Details of toxic effects not reported other than lethal dose value. LCLo, inhalation, human: 3000 ppm/5 minutes: No toxic effects noted.

Skin Corrosion and Irritation:
Not applicable.

Serious Eye Damage and Irritation:
Not applicable.

Respiratory Sensitization:
May cause allergy or asthma symptoms or breathing difficulties if inhaled. Avoid breathing dust, fumes or mist. In case of inadequate ventilation wear respiratory protection. IF INHALED: If breathing is difficult, remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER or physician. Dispose of contents in accordance with local, state, federal and international regulations.

Skin Sensitization:
Not applicable.

Germ Cell Mutagenicity:
Not applicable.

Carcinogenicity:
Not applicable.

Reproductive Toxicity:
Not applicable.

Specific Target Organ Toxicity from Single Exposure:
Not applicable.
Specific Target Organ Toxicity from Repeated Exposure:
Not applicable.

Aspiration Hazard:
Not applicable.

Additional Toxicology Information:
Data not available.

SECTION 12: Ecological Information

12.1. Ecotoxicity
Harmful to aquatic life. Avoid release to the environment. Dispose of contents in accordance with local, state, federal and international regulations.

12.2. Persistence and Degradability
Data not available.

12.3. Bioaccumulative Potential
Data not available.

12.4. Mobility in Soil
Data not available.

12.5. Other Adverse Ecological Effects
Data not available.

SECTION 13: Disposal Considerations

13.1. Waste Treatment Methods
Data not available.

SECTION 14: Transportation Information

14.1. Transportation by Land - Department of Transportation (DOT, United States of America)

Not regulated according to DOT Regulations.
SECTION 15: Regulatory Information

15.1. Occupational Safety and Health Administration (OSHA) Hazards
   Not listed.

15.2. Superfund Amendments and Reauthorization Act (SARA) 302 Extremely Hazardous Substances
   Hydrochloric Acid (CAS # 7647-01-0): 500 lb TPQ (gas only)
   Hydrochloric Acid (CAS # 7647-01-0): 5000 lb EPCRA RQ (gas only)

15.3. Superfund Amendments and Reauthorization Act (SARA) 311/312 Hazardous Chemicals
   Hydrochloric Acid (CAS # 7647-01-0): 5000 lb final RQ; 2270 kg final RQ

15.4. Superfund Amendments and Reauthorization Act (SARA) 313 Toxic Release Inventory (TRI)
   Hydrochloric Acid (CAS # 7647-01-0): 1.0 % de minimis concentration (acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size)

15.5. Massachusetts Right-to-Know Substance List
   Hydrochloric Acid (CAS # 7647-01-0): Extraordinarily hazardous

15.6. Pennsylvania Right-to-Know Hazardous Substances
   Hydrochloric Acid (CAS # 7647-01-0): Environmental hazard
   Hydrochloric Acid (CAS # 7647-01-0): Present
   Water (CAS # 7732-18-5): Present

15.7. New Jersey Worker and Community Right-to-Know Components
   Hydrochloric Acid (CAS # 7647-01-0): corrosive
   Hydrochloric Acid (CAS # 7647-01-0): sn 1012
   Hydrochloric Acid (CAS # 7647-01-0): SN 1012 500 lb TPQ (>=37% concentration); SN 2909 500 lb TPQ (Hydrogen chloride gas only)

15.8. California Proposition 65
   Not listed.
Safety Data Sheet

15.9. Canada Domestic Substances List / Non-Domestic Substances List (DSL/NDSL)
Hydrochloric Acid (CAS # 7647-01-0): Present (DSL)
Water (CAS # 7732-18-5): Present (DSL)

15.10. United States of America Toxic Substances Control Act (TSCA) List
Hydrochloric Acid (CAS # 7647-01-0): Present [T]
Water (CAS # 7732-18-5): Present

15.11. European Inventory of Existing Commercial Chemical Substances (EINECS),
European List of Notified Chemical Substances (ELINCS), and No Longer Polymers (NLP)
Not listed.

SECTION 16: Other Information

16.1. Full Text of Hazard Statements and Precautionary Statements
May cause allergy or asthma symptoms or breathing difficulties if inhaled. Harmful to aquatic life.

Avoid breathing dust, fumes or mist. Avoid release to the environment. In case of inadequate ventilation wear respiratory protection.

IF INHALED: If breathing is difficult, remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER or physician.

Dispose of contents in accordance with local, state, federal and international regulations.

16.2. Miscellaneous Hazard Classes

Canadian Carcinogenicity Hazard Class: Not Applicable.
Physical Hazards Not Otherwise Classified (PHNOC): Not Applicable.
Health Hazards Not Otherwise Classified (HHNOC): Not Applicable.

16.3. National Fire Protection Association (NFPA) Rating

Health: 1
Flammability: 0
Reactivity: 0
Special Hazard:
DISCLAIMER

When handled properly by qualified personnel, the product described herein does not present a significant health or safety hazard. Alteration of its characteristics by concentration, evaporation, addition of other substances, or other means may present hazards not specifically addressed herein and which must be evaluated by the user. The information furnished herein is believed to be accurate and represents the best data currently available to us. No warranty, expressed or implied, is made and RICCA CHEMICAL COMPANY assumes no legal responsibility or liability whatsoever resulting from its use.