MATERIAL SAFETY DATA SHEET
PYRUVIC ACID

1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MSDS Name: Pyruvic acid
Synonyms: 2-Oxopropanoic acid
Company Identification: Sisco Research Laboratories Pvt. Ltd.
Andheri (East), Mumbai – 400 099.
Tel : +91 22 2687 2601
Fax : +91 22 2687 8241
Website : www.srlchem.com

2 - COMPOSITION, INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>CAS#</th>
<th>Chemical Name:</th>
<th>%</th>
<th>EINECS#</th>
</tr>
</thead>
<tbody>
<tr>
<td>127-17-3</td>
<td>Pyruvic acid</td>
<td>98%</td>
<td>204-824-3</td>
</tr>
</tbody>
</table>

3 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW
Causes severe burns.

Potential Health Effects
Eye: Causes eye burns. When substance becomes wet or comes in contact with moisture of the mucous membranes, it will cause burns.

Skin: Causes skin burns.

Ingestion: Causes gastrointestinal tract burns.

Inhalation: Causes chemical burns to the respiratory tract. Inhalation may be fatal as a result of spasm, inflammation, edema of the larynx and bronchi, chemical pneumonitis and pulmonary edema. Causes corrosive action on the mucous membranes. Inhalation may produce burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting.

Chronic:

4 - FIRST AID MEASURES

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

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

Ingestion: Do not induce vomiting. Get medical aid immediately.
Inhalation: Get medical aid immediately. Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Notes to Physician: Treat symptomatically and supportively.

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. Combustible liquid.

Extinguishing Media: Use foam, dry chemical, or carbon dioxide.

6 - ACCIDENTAL RELEASE MEASURES

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

Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container.

7 – HANDLING AND STORAGE

Handling: Do not breathe dust, vapor, mist, or gas. Do not get in eyes, on skin, or on clothing. Use only in a chemical fume hood.


8 – EXPOSURE CONTROLS, PERSONAL PROTECTION

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

Exposure Limits CAS# 127-17-3

Personal Protective Equipment

Eyes: Wear chemical splash goggles.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid

Specific Gravity/Density: 1.268-1.272g

Molecular Formula: C₃H₄O₃
Molecular Weight: 88.06

10 - STABILITY AND REACTIVITY

Chemical Stability: May decompose on exposure to air. Becomes yellow over time. Air sensitive. Light sensitive. Polymerizes and decomposes on standing unless pure and kept in container with airtight closure.

Conditions to Avoid: Incompatible materials, light, exposure to air, temperatures above 160°C.

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

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide.

Hazardous Polymerization: May occur.

11 - TOXICOLOGICAL INFORMATION

RTECS#: CAS# 127-17-3: UZ0829800
LD50/LC50: RTECS: Not available.
Carcinogenicity: Pyruvic acid - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
Other: The toxicological properties have not been fully investigated. See actual entry in RTECS for complete information.

12 - ECOLOGICAL INFORMATION

Not available.

13 - DISPOSAL CONSIDERATIONS

Dispose of in a manner consistent with federal, state, and local regulations.

14 - TRANSPORT INFORMATION

<table>
<thead>
<tr>
<th>IATA</th>
<th>IMO</th>
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<tr>
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</tbody>
</table>

15 - REGULATORY INFORMATION

European/International Regulations
European Labeling in Accordance with EC Directives
Hazard Symbols: C
Risk Phrases: R 35 Causes severe burns.
Safety Phrases:  
S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.  
S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

WGK (Water Danger/Protection)  
CAS# 127-17-3: Not available

Canada  
CAS# 127-17-3 is listed on Canada's DSL List

US Federal  
CAS# 127-17-3 is listed on the TSCA Inventory.

16 - ADDITIONAL INFORMATION

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