

## MATERIAL SAFETY DATA SHEET

### L-Proline

#### Section 1 Chemical Product and Company Identification

**Synonym:** 2-Carboxypyrrolidine  
**CAS#:** 147-85-3  
**Chemical Formula:** C<sub>5</sub>H<sub>9</sub>NO<sub>2</sub>  
**Supplier:** FOODCHEM INTERNATIONAL CORPORATION  
Foodchem Building, 2277 Zuchongzhi Road,  
Zhangjiang Hi-Tech Park, Shanghai, 201203, China  
Tel: 0086 21 3126 7000 Fax: 0086 21 5876 8440

#### Section 2 : Composition and Information on Ingredients

| Name        | CAS #    | % by Weight |
|-------------|----------|-------------|
| {L-}Proline | 147-85-3 | 100         |

#### Section 3 Hazards Identification

**Potential Acute Health Effects:** Hazardous in case of eye contact (irritant), of ingestion, of inhalation.  
**Potential Chronic Health Effects:**  
Hazardous in case of eye contact (irritant), of ingestion, of inhalation. CARCINOGENIC EFFECTS: Not available.  
MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance is toxic to lungs. Repeated or prolonged exposure to the substance can produce target organs damage.

#### Section 4: First Aid Measures

**Eye Contact:**  
Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Do not use an eye ointment. Seek medical attention.  
**Skin Contact:** No known effect on skin contact, rinse with water for a few minutes.  
**Serious Skin Contact:** Not available.  
**Inhalation:** Allow the victim to rest in a well ventilated area. Seek immediate medical attention.  
**Serious Inhalation:** Not available.  
**Ingestion:**  
Do not induce vomiting. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.  
**Serious Ingestion:** Not available.

#### Section 5: Fire and Explosion Data

**Flammability of the Product:** May be combustible at high temperature.  
**Auto-Ignition Temperature:** Not available.  
**Flash Points:** Not available.  
**Flammable Limits:** Not available.  
**Products of Combustion:** These products are carbon oxides (CO, CO<sub>2</sub>), nitrogen oxides (NO, NO<sub>2</sub>...).  
**Fire Hazards in Presence of Various Substances:** Not available.  
**Explosion Hazards in Presence of Various Substances:**  
Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in

presence of static discharge: Not available.

**Fire Fighting Media and Instructions:**

SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

**Special Remarks on Fire Hazards:** Not available.

**Special Remarks on Explosion Hazards:** Not available.

## Section 6: Accidental Release Measures

**Small Spill:**

Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

**Large Spill:**

Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

## Section 7: Handling and Storage

**Precautions:**

Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. Do not breathe dust. Avoid contact with eyes. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If you feel unwell, seek medical attention and show the label when possible.

**Storage:**

Keep container dry. Keep in a cool place. Ground all equipment containing material. Keep container tightly closed. Keep in a cool, well-ventilated place. Combustible materials should be stored away from extreme heat and away from strong oxidizing agents.

## Section 8: Exposure Controls/Personal Protection

**Engineering Controls:**

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

**Personal Protection:** Splash goggles. Lab coat.

**Personal Protection in Case of a Large Spill:**

Splash goggles. Full suit. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

**Exposure Limits:** Not available.

## Section 9: Physical and Chemical Properties

**Physical state and appearance:** Solid.

**Odor:** Not available.

**Taste:** Not available.

**Molecular Weight:** 115.13 g/mole

**Color:** Not available.

**pH (1% soln/water):** Not available.

**Boiling Point:** Not available.

**Melting Point:** Decomposes. (220°C or 428°F)

**Critical Temperature:** Not available.

**Specific Gravity:** Not available.

**Vapor Pressure:** Not applicable.

**Vapor Density:** Not available.

**Volatility:** Not available.

**Odor Threshold:** Not available.

**Water/Oil Dist. Coeff.:** Not available.

**Ionicity (in Water):** Not available.

**Dispersion Properties:** See solubility in water.

**Solubility:** Easily soluble in cold water.

### Section 10: Stability and Reactivity Data

**Stability:** The product is stable.  
**Instability Temperature:** Not available.  
**Conditions of Instability:** Not available.  
**Incompatibility with various substances:** Not available.  
**Corrosivity:** Non-corrosive in presence of glass.  
**Special Remarks on Reactivity:** Not available.  
**Special Remarks on Corrosivity:** Not available.  
**Polymerization:** No.

### Section 11: Toxicological Information

**Routes of Entry:** Eye contact. Inhalation. Ingestion.  
**Toxicity to Animals:**  
LD50: Not available. LC50: Not available.  
**Chronic Effects on Humans:** The substance is toxic to lungs.  
**Other Toxic Effects on Humans:** Hazardous in case of ingestion, of inhalation.  
**Special Remarks on Toxicity to Animals:** Not available.  
**Special Remarks on Chronic Effects on Humans:** Passes through the placental barrier in human.  
**Special Remarks on other Toxic Effects on Humans:** Not available.

### Section 12: Ecological Information

**Ecotoxicity:** Not available.  
**BOD5 and COD:** Not available.  
**Products of Biodegradation:**  
Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.  
**Toxicity of the Products of Biodegradation:** The products of degradation are more toxic.  
**Special Remarks on the Products of Biodegradation:** Not available.

### Section 13: Disposal Considerations

**Waste Disposal:**

### Section 14: Transport Information

**DOT Classification:** Not a DOT controlled material (United States).  
**Identification:** Not applicable.  
**Special Provisions for Transport:** Not applicable.

### Section 15: Other Regulatory Information

**Federal and State Regulations:** TSCA 8(b) inventory: L-Proline  
**Other Regulations:** OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).  
**Other Classifications:**  
**WHMIS (Canada):** CLASS D-2A: Material causing other toxic effects (VERY TOXIC).  
**DSCL (EEC):** R36- Irritating to eyes.  
**HMIS (U.S.A.):**  
**Health Hazard:** 2  
**Fire Hazard:** 1  
**Reactivity:** 0  
**Personal Protection:** j  
**National Fire Protection Association (U.S.A.):**  
**Health:** 2  
**Flammability:** 1  
**Reactivity:** 0  
**Specific hazard:**  
**Protective Equipment:**

Not applicable. Lab coat. Wear appropriate respirator when ventilation is inadequate. Splash goggles.

#### Section 16: Other Information

**References:** Not available.

**Other Special Considerations:** Not available.

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