

Safety Data Sheet (SDS)

Section 1: Identification

1.1 Product Identification

- Product Name: Phenylalanine sodium salt
- Product Number: Sigma-1492025192
- Brand: Sigma
- CAS Number: 16480-57-2
- EC Number: 240-534-3
- Molecular Formula: $C_9H_{10}NNaO_2$
- Molecular Weight: 187.17 g/mol
- Website: [Sigma Chemical](#)

1.2 Supplier Details

- Company Name: Sigma Chemical Co., Ltd.
- Address: Room 2-1-2301, Jiahe Xinxing, No.130, Shandong Road, Shibei District, Qingdao City, Shandong Province, China
- Phone Number: +8618661891880
- Email: chemweb3@foxmail.com
- Business Hours:
 - Monday to Friday: 9:00 AM - 6:00 PM
 - Saturday: 9:00 AM - 1:00 PM
 - Sunday: Closed

1.3 Emergency Contact Number

- Emergency Contact: +8618661891880

1.4 Recommended Use and Restrictions

- Recommended Use: For research and development purposes only. Not for use as a drug, household product, or other.

Section 2: Hazard Identification

2.1 GHS Classification

- Not classified as hazardous according to GHS criteria.

2.2 GHS Label Elements

- Pictogram: None
- Signal Word: None
- Hazard Statements: None
- Precautionary Statements:
 - Prevention:
 - P264: Wash thoroughly after handling
 - Response: None specific
 - Disposal:
 - P501: Dispose of contents/container in accordance with local/regional/national/international regulations

2.3 Physical and Chemical Hazards

- Physical and Chemical Hazards: Non-flammable. Stable under normal conditions. No known hazards.

2.4 Health Hazards

- Health Hazards: Low toxicity. May cause mild irritation to eyes, skin, or respiratory tract upon direct contact or inhalation of dust. Not expected to be harmful if swallowed in small amounts. Special consideration: Contains phenylalanine; individuals with phenylketonuria (PKU) should avoid exposure due to potential metabolic risks.

2.5 Environmental Hazards

- Environmental Hazards: No environmental hazards identified based on current information. Low ecotoxicity expected.

Section 3: Composition/Information on Ingredients

3.1 Substance

- Synonyms: Phenylalanine sodium salt; Sodium phenylalaninate; Sodium 3-phenyl-L-alaninate; L-phenylalanine sodium salt; sodium (2S)-2-amino-3-phenylpropanoate
- Molecular Formula: $C_9H_{10}NNaO_2$
- Molecular Weight: 187.17 g/mol
- CAS Number: 16480-57-2
- EC Number: 240-534-3
- Hazardous Components: None

Section 4: First Aid Measures

4.1 First Aid Measures

- Inhalation: Remove victim to fresh air. If feeling unwell, call a POISON CENTER/doctor.
- Skin Contact: Wash with plenty of water for at least 15 minutes. Remove contaminated clothing and wash before reuse. Get medical attention if irritation persists.

- Eye Contact: Rinse immediately with plenty of water for at least 15 minutes. Remove contact lenses if present and easy to do. Continue rinsing. Get medical attention if eye irritation persists.
- Ingestion: Rinse mouth with water. Call a POISON CENTER/doctor if feeling unwell. Do not induce vomiting unless instructed by medical personnel.

4.2 Most Important Symptoms and Effects

- Symptoms: Mild irritation, headache, or nausea from dust exposure. No acute effects expected.

4.3 Immediate Medical Attention and Special Treatment

- Medical Treatment: Treat symptomatically. Note potential PKU risks for sensitive individuals.

Section 5: Firefighting Measures

5.1 Extinguishing Media

- Suitable Extinguishing Agents: Use fire extinguishing methods suitable for surrounding environment. Water spray, foam, dry chemical, or carbon dioxide.

5.2 Specific Hazards Arising from the Chemical

- Hazardous Combustion Products: Carbon monoxide (CO), carbon dioxide (CO₂), nitrogen oxides (NO_x)

5.3 Firefighting Precautions

- Protective Equipment: Wear self-contained breathing apparatus (pressure-demand, MSHA/NIOSH approved or equivalent) and full protective clothing if necessary.

Section 6: Accidental Release Measures

6.1 Personal Precautions, Protective Equipment, and Emergency Procedures

- Personal Precautions: Ensure adequate ventilation. Use personal protective equipment as required. Avoid dust formation and contact with skin, eyes, or clothing.

- Environmental Precautions: Prevent entry into soil, drains, or surface water.

6.2 Methods and Materials for Containment and Clean-Up

- Containment: For small spills, sweep up or vacuum with HEPA filter. For large spills, contain with absorbent material (e.g., sand, vermiculite) and collect in suitable containers.

6.3 Reference to Other Sections

- Other Sections: See Section 8 for personal protection equipment and Section 13 for disposal information.

Section 7: Handling and Storage

7.1 Handling Precautions

- Handling: Ensure adequate ventilation. Wear personal protective equipment. Avoid dust inhalation, ingestion, or prolonged skin contact. Wash hands after handling.

7.2 Storage Conditions

- Storage: Store in a dry, cool, and well-ventilated place. Keep container tightly closed. Keep away from incompatible materials such as strong oxidizing agents.

Section 8: Exposure Controls/Personal Protection

8.1 Control Parameters

- Exposure Limits: No occupational exposure limits established by regional regulatory authorities.

8.2 Exposure Controls

- Engineering Measures: Ensure adequate ventilation, especially in confined areas.
- Personal Protective Equipment:
 - Eye/Face Protection: Safety glasses.
 - Skin Protection: Gloves (impervious material).

- Respiratory Protection: Dust mask if dust is generated.
- Hygiene Measures: Wash hands before breaks and at end of workday.

Section 9: Physical and Chemical Properties

- Appearance: White to off-white crystalline powder
- Odor: Odorless
- pH: Basic in aqueous solution (>7)
- Melting Point/Freezing Point: Decomposes >270 °C (no sharp melting point)
- Boiling Point: Not applicable
- Flash Point: Not applicable
- Evaporation Rate: Not applicable
- Flammability: Non-flammable
- Upper/Lower Flammability Limit: Not applicable
- Vapor Pressure: Negligible
- Vapor Density: Not applicable
- Relative Density: ~1.3 g/cm³
- Solubility: Highly soluble in water; slightly soluble in ethanol; insoluble in most organic solvents
- Partition Coefficient (n-octanol/water): Log P ~ -3.0 (estimated)
- Auto-ignition Temperature: Not applicable
- Decomposition Temperature: >270 °C
- Viscosity: Not applicable
- Explosive Properties: Non-explosive
- Oxidizing Properties: Non-oxidizing

Section 10: Stability and Reactivity

10.1 Reactivity: Stable under recommended storage conditions.

10.2 Chemical Stability: Stable.

10.3 Possibility of Hazardous Reactions: None known.

10.4 Conditions to Avoid: High temperatures, moisture (hygroscopic).

10.5 Incompatible Materials: Strong oxidizing agents, strong acids.

10.6 Hazardous Decomposition Products: Carbon oxides, nitrogen oxides upon heating.

Section 11: Toxicological Information

11.1 Information on Toxicological Effects

- Acute Toxicity: Low toxicity. Oral LD50 (rat) >5000 mg/kg (estimated from parent compound; no specific data for salt).
- Skin Corrosion/Irritation: Mild irritant.
- Serious Eye Damage/Irritation: Mild irritant.
- Respiratory or Skin Sensitization: Not a sensitizer.
- Germ Cell Mutagenicity: Not mutagenic.
- Carcinogenicity: Not carcinogenic (IARC: Not classifiable).
- Reproductive Toxicity: No evidence.
- Specific Target Organ Toxicity (Single Exposure): Not classified.
- Specific Target Organ Toxicity (Repeated Exposure): Not classified.
- Aspiration Hazard: Not applicable.
- Additional Information: Generally recognized as safe (GRAS) for use in food/nutrition. Potential risks for PKU patients due to phenylalanine content.

Section 12: Ecological Information

12.1 Toxicity: Low ecotoxicity. No specific data; parent amino acid is biodegradable and non-toxic to aquatic life.

- Aquatic Acute Toxicity: LC50 >100 mg/L (fish, estimated).
- Aquatic Chronic Toxicity: No data.

12.2 Persistence and Degradability: Biodegradable.

12.3 Bioaccumulative Potential: Low (log Kow <0).

12.4 Mobility in Soil: High mobility due to water solubility.

12.5 Results of PBT and vPvB Assessment: Not PBT or vPvB.

12.6 Other Adverse Effects: Not hazardous to environment.

Section 13: Disposal Considerations

13.1 Waste Treatment Methods

- Disposal: Dispose of in accordance with local/regional/national/international regulations. May be incinerated or landfilled as non-hazardous waste.

Section 14: Transport Information

14.1 UN Number: Not regulated

14.2 UN Proper Shipping Name: Not applicable

14.3 Transport Hazard Class(es): None

14.4 Packing Group: None

14.5 Environmental Hazards: No

14.6 Special Precautions for User: None

14.7 Transport in Bulk According to Annex II of MARPOL73/78 and IBC Code: Not applicable

Section 15: Regulatory Information

15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture

- US TSCA: Listed
- EU REACH: Registered
- SARA 302/304/311/312: Not applicable
- SARA 313: Not applicable
- CERCLA: Not applicable

15.2 Chemical Safety Assessment: Not required.