Safety Data Sheet

According to 29 CFR 1910.1200 (OSHA Hazard Communication Standard, 2024)

Version 1 · Date of preparation 2026-10-07

Section 1. Identification

Product identifier used on the label	H-DL-Phe(4-NO2)-OH (product number 47160)
Other means of identification	Product number: 47160 Abbreviation: H-DL-Phe(4-NO2)-OH
Recommended use of the chemical and restrictions on use	Recommended use: laboratory reagent; amino acid derivative (4-nitro-DL-phenylalanine) for peptide synthesis and research. For research and development use only. Restrictions on use: not for food, drug, household, pesticide or biocidal use.
Name, U.S. address, and U.S. telephone number of the chemical manufacturer, importer, or other responsible party	P3 BioSystems 270 Haven Hill Rd, Shelbyville, KY 40065 Telephone: +1 888-737-5598 Email: info@p3bio.com
Emergency phone number	+1 888-737-5598 (P3 BioSystems office line, business hours)

Section 2. Hazard identification

Classification of the chemical in accordance with paragraph (d)(1) of § 1910.1200, except for classification under paragraph (d)(1)(ii)	• Acute toxicity - oral, category 3
Signal word, hazard statement(s), symbol(s) and precautionary statement(s) in accordance with paragraph (f) of § 1910.1200	**Signal word: Danger** Hazard pictograms: Skull and Crossbones Hazard statements: • H301 Toxic if swallowed. Precautionary statements: • P264 Wash hands thoroughly after handling. • P270 Do not eat, drink or smoke when using this product. • P301+P310 If swallowed: Immediately call a poison center or doctor. • P330 Rinse mouth. • P405 Store locked up. • P501 Dispose of contents/container in accordance with local, state and federal regulations.
Hazards classified under paragraph (d)(1)(ii) of § 1910.1200	None identified.

Hazards not otherwise classified that have been identified during the classification process	None identified.
Where an ingredient with unknown acute toxicity is used in a mixture at a concentration ≥ 1% and the mixture is not classified based on testing of the mixture as a whole, a statement that X% of the mixture consists of ingredient(s) of unknown acute toxicity	Not applicable: the product is a substance, not a mixture.

Section 3. Composition/information on ingredients

Chemical name	2-amino-3-(4-nitrophenyl)propanoic acid
Common name and synonyms	4-Nitro-DL-phenylalanine; p-nitro-DL-phenylalanine; H-DL-Phe(4-NO2)-OH; 2-amino-3-(4-nitrophenyl)propanoic acid.
CAS number and other unique identifiers	• CAS number: 2922-40-9 • InChIKey: GTVVZTAFGPQSPC-UHFFFAOYSA-N • PubChem CID: 65089
Impurities and stabilizing additives (constituents) which are themselves classified and which contribute to the classification of the substance	None known. The product is a single substance. No impurity or additive is known to contribute to the classification.

Section 4. First-aid measures

Description of necessary measures, subdivided according to the different routes of exposure, i.e., inhalation, skin and eye contact, and ingestion	General advice: Show this safety data sheet to the doctor in attendance. Inhalation: Move the person to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur. Skin: Take off contaminated clothing. Wash with plenty of soap and water. Get medical attention if symptoms occur. Wash contaminated clothing before reuse. Eyes: Rinse with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses if present and easy to do. Get medical attention if irritation persists. Ingestion: Rinse mouth. Do not induce vomiting. Never give anything by mouth to an unconscious person. Immediately call a poison center or doctor.
Most important symptoms/effects, acute and delayed	Toxic if swallowed.
Indication of immediate medical attention and special treatment needed, if necessary	Immediate medical attention is required if swallowed. Treat symptomatically. Show this safety data sheet to the attending physician.

Section 5. Fire-fighting measures

Suitable (and unsuitable) extinguishing media	Suitable: water spray, carbon dioxide, dry chemical, alcohol-resistant foam. Unsuitable: do not use a solid water jet.
Specific hazards arising from the chemical (e.g., nature of any hazardous combustion products)	Keep product and empty containers away from heat and sources of ignition. Thermal decomposition can release irritating gases and vapors. Hazardous combustion products: carbon monoxide, carbon dioxide and nitrogen oxides.
Special protective equipment and precautions for fire-fighters	Wear a NIOSH/MSHA-approved, pressure-demand self-contained breathing apparatus and full protective gear. Thermal decomposition can release irritating gases and vapors.

Section 6. Accidental release measures

Personal precautions, protective equipment, and emergency procedures	Keep unprotected people away from the spill. Use personal protective equipment (see Section 8). Avoid dust formation and do not breathe dust. Ensure adequate ventilation.
Methods and materials for containment and cleaning up	Sweep up and shovel the material, without creating dust, into suitable closed containers for disposal (see Section 13). Do not let the product enter drains.

Section 7. Handling and storage

Precautions for safe handling	Use only in a chemical fume hood or with local exhaust ventilation. Avoid contact with skin, eyes and clothing. Avoid formation of dust and do not breathe dust. Keep away from heat and sources of ignition; minimize dust generation and accumulation. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.
Conditions for safe storage, including any incompatibilities	Keep the container tightly closed in a dry, cool, well-ventilated place. Store as stated on the product label (the supplier recommends 0–8 °C). Allow the container to warm to room temperature before opening. Store locked up, or in an area accessible only to qualified or authorized persons. Incompatible materials: strong oxidizing agents.

Section 8. Exposure controls/personal protection

OSHA permissible exposure limit (PEL), ACGIH Threshold Limit Value (TLV), and any other exposure limit used or recommended by the chemical manufacturer, importer, or employer preparing the safety data sheet, where available	No OSHA PEL or ACGIH TLV has been established.

Appropriate engineering controls	Use only in a chemical fume hood or with local exhaust ventilation that keeps airborne dust as low as possible. An eyewash station should be available where the material is stored or used.
Individual protection measures, such as personal protective equipment	Eyes/face: Safety glasses with side shields or chemical safety goggles (29 CFR 1910.133). Skin: Chemical-resistant gloves (e.g. nitrile rubber, minimum thickness 0.11 mm); inspect before use and remove without touching the outer surface. Wear a lab coat or other protective clothing to prevent skin exposure. Respiratory: Required when dust is generated outside a fume hood, or if irritation or other symptoms are experienced: use a NIOSH-approved particulate respirator under a respiratory protection program meeting 29 CFR 1910.134. Hygiene: Wash hands before breaks and at the end of the workday. Do not eat, drink or smoke in work areas.

Section 9. Physical and chemical properties

Physical state	Solid (powder).
Color	Faintly yellow (supplier data; no P3 specification on file).
Odor (includes odor threshold)	No applicable information available. Odor threshold: no applicable information available.
Melting point/freezing point	No applicable information available.
Boiling point (or initial boiling point or boiling range)	No applicable information available.
Flammability	No applicable information available.
Lower and upper explosion limit/flammability limit	No applicable information available.
Flash point	No applicable information available.
Auto-ignition temperature	No applicable information available.
Decomposition temperature	No applicable information available.
pH	No applicable information available.
Kinematic viscosity	Not applicable (solid).
Solubility	No applicable information available.
Partition coefficient n-octanol/water (log value)	No applicable information available.
Vapor pressure (includes evaporation rate)	Vapor pressure: no applicable information available. Evaporation rate: not applicable (solid).
Density and/or relative density	No applicable information available.
Relative vapor density	Not applicable (solid).

Particle characteristics	Powder. No particle size data available.

Section 10. Stability and reactivity

Reactivity	None known, based on information available.
Chemical stability	Stable under standard ambient conditions.
Possibility of hazardous reactions, including those associated with foreseeable emergencies	No hazardous reactions known under normal processing. Hazardous polymerization does not occur.
Conditions to avoid (e.g., static discharge, shock, or vibration)	Heat, flames, sparks and other ignition sources; dust formation; contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Carbon monoxide, carbon dioxide and nitrogen oxides.

Section 11. Toxicological information

Information on the likely routes of exposure (inhalation, ingestion, skin, and eye contact)	Ingestion (toxic by this route), skin contact, eye contact and inhalation of dust.
Symptoms related to the physical, chemical, and toxicological characteristics	Ingestion: toxic if swallowed. Skin, eyes and respiratory tract: no data are available on irritation.
Delayed and immediate effects and also chronic effects from short- and long-term exposure	Immediate: toxic if swallowed. Chronic: no data available. The toxicological properties have not been fully investigated.
Numerical measures of toxicity (such as acute toxicity estimates)	Oral LD50 (rat): 124.9 mg/kg (as reported by a US supplier; also given as its acute toxicity estimate). Dermal LD50: no data available. Inhalation LC50: no data available.
Interactive effects; information on interactions should be included if relevant and readily available	No interactive effects are known.
Whether the hazardous chemical is listed in the National Toxicology Program (NTP) Report on Carcinogens (latest edition) or has been found to be a potential carcinogen in the International Agency for Research on Cancer (IARC) Monographs (latest edition), or by OSHA	Not listed by NTP, IARC or OSHA as a carcinogen.

When specific chemical data or information is not available, whether alternative information is used and the method used to derive the information (e.g., information from a class of chemicals rather than the exact chemical, using SAR)	The acute oral toxicity classification rests on the rat oral LD50 of 124.9 mg/kg reported in a US supplier's safety data sheet for 4-nitro-DL-phenylalanine (supplied as the hydrate, same CAS number). No other alternative (analog, class or SAR) information was used.

Section 12. Ecological information

Ecotoxicity (aquatic and terrestrial, where available)	No data available.
Persistence and degradability	No data available.
Bioaccumulative potential	No data available.
Mobility in soil	No data available.
Other adverse effects (such as hazardous to the ozone layer)	Do not let the product enter drains.

Section 13. Disposal considerations

Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging	Dispose of contents and container as hazardous chemical waste through a licensed waste disposal company, in accordance with local, state and federal regulations. Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste (40 CFR Part 261). Dispose of contaminated packaging as unused product. Do not let the product enter drains.

Section 14. Transport information

US DOT: regulated; see 14.a–14.e.

IMDG: not offered — P3 does not ship by sea.

IATA: regulated; see 14.a–14.e.

UN number	• US DOT: UN2811 • IATA: UN2811
UN proper shipping name	• US DOT: Toxic solid, organic, n.o.s. (4-nitro-DL-phenylalanine) • IATA: Toxic solid, organic, n.o.s. (4-nitro-DL-phenylalanine)
Transport hazard class(es)	• US DOT: 6.1 • IATA: 6.1
Packing group, if applicable	• US DOT: III • IATA: III
Environmental hazards (e.g., Marine pollutant (Yes/No))	• US DOT: not a marine pollutant • IATA: not a marine pollutant
Transport in bulk (according to IMO instruments)	Not applicable. P3 BioSystems does not ship this product in bulk or by sea.

Special precautions which a user needs to be aware of, or needs to comply with, in connection with transport or conveyance either within or outside their premises	Toxic solid: keep packages closed and upright, and separate from foodstuffs. If a package is damaged, avoid skin contact and dust, and prevent the contents from entering drains.

Section 15. Regulatory information

Safety, health and environmental regulations specific for the product in question	TSCA: The chemicals shipped by P3 BioSystems are not subject to TSCA. SARA 302: no extremely hazardous substances. SARA 313: no components subject to reporting. SARA 311/312 hazard categories: Acute toxicity (any route of exposure). CERCLA: contains no substances regulated as hazardous substances (40 CFR 302). California Proposition 65: contains no Proposition 65 chemicals.

Section 16. Other information, including date of preparation or last revision

The date of preparation of the SDS or the last change to it	Date of preparation: 2026-10-07.

The information above is believed to be accurate and represents the best information available to P3 BioSystems on the date of preparation. It is provided for the safe handling of the product by trained persons in a laboratory and is not a warranty of any kind.