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-Dab.2HCl (product number 47055)
Other means of identification	Product number: 47055 Abbreviation: H-DL-Dab·2HCl
Recommended use of the chemical and restrictions on use	Recommended use: laboratory reagent; amino acid (DL-2,4-diaminobutyric acid dihydrochloride) 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)	• Skin corrosion/irritation, category 1A to 1C (sub-category 1B) • Eye damage/irritation, category 1

Signal word, hazard statement(s), symbol(s) and precautionary statement(s) in accordance with paragraph (f) of § 1910.1200	**Signal word: Danger** Hazard pictograms: Corrosion Hazard statements: • H314 Causes severe skin burns and eye damage. • H318 Causes serious eye damage. Precautionary statements: • P260 Do not breathe dust. • P264 Wash face, hands and any exposed skin thoroughly after handling. • P280 Wear protective gloves/protective clothing/eye protection/face protection. • P301+P330+P331 If swallowed: Rinse mouth. Do NOT induce vomiting. • P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. • P363 Wash contaminated clothing before reuse. • P304+P340 If inhaled: Remove person to fresh air and keep comfortable for breathing. • P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. • P310 Immediately call a poison center or doctor. • P321 Specific treatment (see Section 4 of this SDS). • 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	2,4-diaminobutanoic acid dihydrochloride
Common name and synonyms	DL-2,4-Diaminobutyric acid dihydrochloride; H-DL-Dab-OH·2HCl; 2,4-diaminobutanoic acid dihydrochloride.
CAS number and other unique identifiers	• CAS number: 65427-54-5 • InChIKey: CKAAWCHIBBNLOJ-UHFFFAOYSA-N • PubChem CID: 2724329

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 and keep comfortable for breathing. If not breathing, give artificial respiration. Get medical attention immediately. Skin: Take off immediately all contaminated clothing. Rinse the skin with plenty of water, or shower, for at least 15 minutes. Get medical attention immediately. Wash contaminated clothing before reuse. Eyes: Rinse immediately and cautiously with plenty of water for at least 15 minutes, also under the eyelids. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor. Ingestion: Rinse mouth. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention immediately.
Most important symptoms/effects, acute and delayed	Causes severe skin burns and eye damage: pain, redness and burns of the skin; serious eye damage with a risk of lasting injury. Dust may cause coughing and shortness of breath; swallowing may cause nausea and vomiting.
Indication of immediate medical attention and special treatment needed, if necessary	Immediate medical attention is required after skin contact, eye contact or ingestion. 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, nitrogen oxides and hydrogen chloride.
Special protective equipment and precautions for fire-fighters	Wear a NIOSH/MSHA-approved, pressure-demand self-contained breathing apparatus and full protective gear; prevent skin contact. 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), including gloves and eye/face protection; avoid contact with skin and eyes. 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. Do not breathe dust. Do not get in eyes, on skin or on clothing. Keep away from heat and sources of ignition; minimize dust generation and accumulation. Do not eat, drink or smoke when using this product. Wash face, hands and any exposed skin thoroughly after handling. Take off contaminated clothing and wash it before reuse.
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 (suppliers recommend refrigeration or −20 °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 where dust is generated. Eyewash stations and safety showers must be close to the workstation.
Individual protection measures, such as personal protective equipment	Eyes/face: Tightly fitting chemical safety goggles (29 CFR 1910.133), with a face shield where dust or splashes are possible. Skin: Chemical-resistant gloves (e.g. nitrile rubber, minimum thickness 0.11 mm); inspect before use and remove without touching the outer surface. Wear protective clothing (laboratory coat, and additional impervious clothing for larger quantities) to prevent any skin contact. 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: Immediately change contaminated clothing. Wash hands and face before breaks and after work. Do not eat, drink or smoke in work areas.

Section 9. Physical and chemical properties

Physical state	Solid (crystalline powder).
Color	Off-white to light 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	Melting point: 197–199 °C, with decomposition (supplier data; no P3 specification on file).
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	Crystalline powder. No particle size data available.

Section 10. Stability and reactivity

Reactivity	None known, based on information available.
Chemical stability	Stable under recommended storage 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; moisture; dust formation; contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Carbon monoxide, carbon dioxide, nitrogen oxides and hydrogen chloride.

Section 11. Toxicological information

Information on the likely routes of exposure (inhalation, ingestion, skin, and eye contact)	Ingestion, skin contact, eye contact and inhalation of dust.
Symptoms related to the physical, chemical, and toxicological characteristics	Skin: redness, pain and burns. Eyes: pain, redness, watering and serious eye damage; risk of lasting injury. Inhalation: dust may cause coughing and shortness of breath. Ingestion: may cause nausea and vomiting.
Delayed and immediate effects and also chronic effects from short- and long-term exposure	Immediate: severe skin burns and eye damage. Chronic: no data available. The toxicological properties have not been fully investigated.
Numerical measures of toxicity (such as acute toxicity estimates)	No LD50 or LC50 values are 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)	No alternative (analog, class or SAR) information was used. The classification follows US and Canadian suppliers' safety data sheets for this substance; no skin or eye test data for this substance were found. The substance is a dihydrochloride salt.

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: UN3261 • IATA: UN3261
UN proper shipping name	• US DOT: Corrosive solid, acidic, organic, n.o.s. (DL-2,4-diaminobutyric acid dihydrochloride) • IATA: Corrosive solid, acidic, organic, n.o.s. (DL-2,4-diaminobutyric acid dihydrochloride)
Transport hazard class(es)	• US DOT: 8 • IATA: 8
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	Corrosive solid: keep packages closed and upright. If a package is damaged, avoid skin and eye 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: Skin corrosion or irritation; Serious eye damage or eye irritation. 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.