L

Lab Rats Collective

SAFETY DATA SHEET

GHS / OSHA HazCom 2012 Compliant

Prostamax

CAS: 473578-47-1
Formula: C20H33N5O9

Document ID: e8f7fbf1
Revision Date: 2026-08-02
Version: 1.0

Section 1 — Product and Company Identification

Product Name	Prostamax
Synonyms	Prostamax; SCHEMBL6660498; EX-A10561
CAS Number	473578-47-1
Molecular Formula	C20H33N5O9
IUPAC Name	(2S)-1-[(2S)-3-carboxy-2-[[(2S)-4-carboxy-2-[[(2S)-2,6-diaminohexanoyl]amino]butanoyl]amino]propanoyl]pyrrolidine-2-carboxylic acid
Identified Uses	Research laboratory chemical for in vitro scientific research and development use only.
Restriction on Use	Not for human or veterinary use. Not for food, drug, cosmetic, household, agricultural, clinical, therapeutic, or diagnostic applications.

Manufacturer / Supplier

Company	Lab Rats Collective
Address	5900 Balcones Dr, Ste 100, Austin, TX 78731, US
Phone	9728370284
Website	https://labratsco.com/
Emergency Contact	CHEMTREC
Emergency Phone	800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week

Section 2 — Hazard Identification

Classification of the substance

Not classified based on currently available data; however, data is limited and hazards cannot be fully characterized. The absence of classification should not be interpreted as a determination of the absence of hazard.

Classification has been conducted in accordance with 29 CFR 1910.1200 (OSHA HazCom 2012) and GHS Rev.8 using all available data and scientifically valid weight-of-evidence approaches (GHS Rev.8 Chapter 1.3.2.4), including read-across from chemical class and structural considerations where substance-specific study data is not available.

Signal Word: **None**

GHS Pictograms:
None required based on classification.

Hazard Statements
None. This substance is not classified for any GHS hazard class based on available data.

Precautionary Statements

- P261: Avoid breathing dust, fume, gas, mist, vapors, or spray.
- P264: Wash hands and exposed skin thoroughly after handling.
- P280: Wear protective gloves, protective clothing, and eye/face protection.
- P501: Dispose of contents and container in accordance with local, regional, national, and international regulations.

Precautionary statements are provided as best practice for handling substances with limited toxicological data, and are not a declaration of GHS classification.

Hazards Not Otherwise Classified (HNOC)
None known based on available data and weight-of-evidence assessment. The toxicological properties of this substance have not been fully characterized; handle as a potentially bioactive substance of unknown toxicity.

Section 3 — Composition / Information on Ingredients

Single-substance product. Chemical identity:

Ingredient	CAS Number	Mol. Formula	Mol. Weight	Concentration
Prostamax	473578-47-1	C20H33N5O9	487.5 g/mol	>98% (research grade)

Impurities
No hazardous impurities known to be present above the GHS classification thresholds specified in 29 CFR 1910.1200 Appendix A. Residual synthesis reagents, solvents, and counter-ions may be present at levels consistent with research-grade (>98% purity) material. Balance: non-hazardous impurities. Refer to the accompanying Certificate of Analysis (CoA) for the lot-specific impurity profile.

Section 4 — First Aid Measures

Eye Contact
Rinse cautiously with water for several minutes. If irritation persists, seek medical advice.

Skin Contact
Wash with soap and water. Remove contaminated clothing and wash before reuse. If irritation persists, seek medical advice.

Inhalation
Move affected person to fresh air. If symptoms develop, seek medical advice.

Ingestion
Rinse mouth thoroughly with water. If large amounts are swallowed or if symptoms develop, seek medical advice. Do not induce vomiting unless directed by medical personnel.

Note to Physician

Treat symptomatically. No specific antidote known.

Section 5 — Fire Fighting Measures

Flash Point: *Not determined*

Suitable Extinguishing Media

Use extinguishing media appropriate to the surrounding fire conditions. Carbon dioxide (CO2), dry chemical powder, foam, or water spray.

Special Hazards

May produce toxic gases upon combustion. Carbon monoxide and other combustion products may be generated.

Protective Equipment for Firefighters

Wear self-contained breathing apparatus (SCBA) and full protective gear. Do not enter fire area without proper protective equipment.

Section 6 — Accidental Release Measures

Personal Precautions

Avoid dust formation. Avoid breathing vapors, mist, or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Use personal protective equipment as described in Section 8.

Environmental Precautions

Prevent further leakage or spillage if safe to do so. Do not allow the product to enter drains, sewers, or waterways.

Containment and Cleanup

Sweep up and shovel. Keep in suitable, closed containers for disposal. Avoid raising dust. Clean contaminated surface thoroughly. Dispose of waste in accordance with local regulations (see Section 13).

Section 7 — Handling and Storage

Handling Precautions

Handle only in a well-ventilated laboratory setting by trained personnel using good chemical hygiene practices consistent with OSHA 29 CFR 1910.1200 and the OSHA Laboratory Standard (29 CFR 1910.1450). Because toxicological data for this substance are not fully characterized, treat it as a potentially hazardous bioactive material of unknown toxicity and minimize all routes of exposure. Wear appropriate personal protective equipment (chemical-resistant gloves, safety goggles, and a lab coat) as described in Section 8, and weigh or manipulate the lyophilized solid inside a fume hood, biological safety cabinet, or ventilated balance enclosure to control airborne particulates. Avoid generating dust, aerosols, or mist; do not inhale, ingest, or allow contact with skin, eyes, or clothing. Do not eat, drink, smoke, or apply cosmetics in areas where the material is handled. Keep the container tightly closed when not in use and open only under conditions that limit moisture uptake, since short peptides are typically hygroscopic. Allow refrigerated or frozen vials to equilibrate to room temperature inside a desiccator before opening to prevent atmospheric condensation on the solid (Bachem, Care and Handling of Peptides). Wash hands and exposed skin thoroughly after handling and before leaving the work area. Decontaminate work surfaces and reusable equipment after use, and manage all waste in accordance with applicable federal, state, and local regulations (e.g., 40 CFR 260-273).

Storage Conditions

Store the lyophilized solid in its original tightly closed container, protected from light, moisture, and air, in a cool, dry, well-ventilated area dedicated to laboratory chemicals. For long-term storage of peptidic material, general peptide-handling guidance recommends storage below -15 degC in a non-frost-free freezer, with the container kept in a desiccator or with desiccant to limit moisture uptake (Bachem, Care and Handling of Peptides; consult the lot-specific Certificate of Analysis for any product-specific storage temperature). Avoid repeated freeze-thaw cycles of reconstituted solutions; aliquot solutions before freezing. Keep away from heat, direct sunlight, ignition sources, and incompatible materials (see below). Store separately from foodstuffs and from oxidizers, strong acids, and strong bases in accordance with standard laboratory chemical segregation practice (see Prudent Practices in the Laboratory, NRC/NCBI Bookshelf). Ensure containers are clearly labeled per 29 CFR 1910.1200(f) and inspect periodically for integrity.

Incompatibilities

Avoid contact with strong oxidizing agents, strong reducing agents, and strong acids or strong bases, which can hydrolyze peptide (amide) bonds or modify sensitive side chains. Avoid prolonged exposure to elevated temperature, high humidity, direct sunlight, and UV light, all of which may promote degradation of peptidic solids. Proteolytic enzymes and microbial contamination will degrade the substance and should be excluded from stock material and reconstituted solutions. No specific dangerous reactions have been reported in authoritative regulatory sources (OSHA, NIOSH, EPA, ECHA, PubChem CID for CAS 473578-47-1); the incompatibilities above reflect general chemical-compatibility guidance for peptidic compounds and standard laboratory segregation practice.

Section 8 — Exposure Controls / Personal Protection

Exposure Limits

No regulatory occupational exposure limits (OEL) have been established by OSHA, ACGIH, NIOSH, or equivalent bodies. No biological exposure indices (BEIs) have been established. Control exposure to the lowest level reasonably achievable (ALARA) using the engineering controls and PPE specified below.

Engineering Controls

Handle as a potentially bioactive substance of unknown toxicity. Use only in a well-ventilated area. Weighing and manipulation of the dry solid should be performed inside a ventilated enclosure such as a certified chemical fume hood, ventilated balance enclosure, or Class I/II biosafety cabinet to prevent generation and inhalation of airborne particulates. For larger quantities or dusty operations, use a HEPA-filtered containment device (e.g., glove box or powder-handling isolator). Provide local exhaust ventilation at points of dust or aerosol generation. Ensure the immediate work area is equipped with an accessible eyewash station and safety shower in accordance with ANSI/ISEA Z358.1. Do not eat, drink, smoke, or store food in the work area. Wash hands and exposed skin thoroughly after handling.

Personal Protective Equipment

Respiratory Protection: Under normal laboratory use within a properly functioning fume hood or ventilated enclosure, additional respiratory protection is not typically required. Where engineering controls are insufficient to prevent airborne exposure (e.g., weighing outside containment, handling of dry powder in open air, or generation of dusts/aerosols), use a NIOSH-approved particulate respirator with N95 filters at a minimum; use an N100/P100 filtering facepiece or half-mask/full-facepiece air-purifying respirator for higher potential exposures. Respirator selection, fit-testing, and use must comply with OSHA 29 CFR 1910.134.

Hand Protection: Wear chemically resistant protective gloves that comply with EU Standard EN 374 or ANSI/ISEA 105. Nitrile rubber gloves of a minimum thickness of 0.11 mm are generally suitable for handling small quantities of the solid or aqueous solutions. Inspect gloves before use, replace immediately if contamination, degradation, or puncture is suspected, and wash hands with soap and water after glove removal. Glove breakthrough time has not been determined for this specific substance; select gloves based on task duration and consult the glove manufacturer.

Eye / Face Protection: Wear tightly fitting safety goggles meeting ANSI/ISEA Z87.1 (US) or EN 166 (EU). Use a face shield in addition to goggles when there is potential for splashing, spraying, or ejection of material, or when handling larger quantities.

Skin Protection: Wear a laboratory coat and full-length trousers/closed-toe shoes. For work with larger quantities or where splash potential exists, use a chemical-resistant apron or a chemical-protective suit meeting EN 13034 (Type 6) or higher. Remove and launder contaminated clothing before reuse; do not take contaminated clothing home. Follow good industrial hygiene practices and handle as a potentially bioactive substance of unknown toxicity.

Section 9 — Physical and Chemical Properties

Physical State	Solid (research-grade lyophilised powder or crystalline solid)
Appearance	White to off-white lyophilized powder or solid
Odor	Not available.
Odor Threshold	Not available.
Boiling Point	*Not determined*
Melting Point	*Not determined*
Flash Point	*Not determined*
Auto-ignition Temperature	No data available.
Decomposition Temperature	No experimental data available.
Vapor Pressure	*Not determined*
Vapor Density	*Not determined*
Specific Gravity	*Not determined*
Partition Coefficient (log Kow)	No experimental data available.
Solubility	*Not determined*
Stability in Solution	Subject to hydrolytic and oxidative degradation typical of the chemical class; store reconstituted solutions refrigerated or frozen, protect from light, and use within the stability window indicated on the Certificate of Analysis.
pH	*Not determined*
Molecular Weight	487.5 g/mol
Molecular Formula	C20H33N5O9

Section 10 — Stability and Reactivity

Chemical Stability: Stable under normal conditions of use, storage, and transport.

Conditions to Avoid: Excessive heat, open flames, sparks, incompatible materials.

Incompatible Materials: Avoid contact with strong oxidizing agents, strong reducing agents, and strong acids or strong bases, which can hydrolyze peptide (amide) bonds or modify sensitive side chains. Avoid prolonged exposure to elevated temperature, high humidity, direct sunlight, and UV light, all of which may promote degradation of peptidic solids. Proteolytic enzymes and microbial contamination will degrade the substance and should be excluded from stock material and reconstituted solutions. No specific dangerous reactions have been reported in authoritative regulatory sources (OSHA, NIOSH, EPA, ECHA, PubChem CID for CAS 473578-47-1); the incompatibilities above reflect general chemical-compatibility guidance for peptidic compounds and standard laboratory segregation practice.

Hazardous Decomposition Products: Upon combustion or decomposition may produce: carbon monoxide (CO), carbon dioxide (CO2), nitrogen oxides (NOx).

Hazardous Polymerization: Will not occur.

Section 11 — Toxicological Information

The toxicological properties of this substance have not been fully characterized. Where no authoritative study data was identified, endpoint classifications are based on a weight-of-evidence approach using read-across from the compound's chemical class and structural features, per GHS Rev.8 Chapter 1.3.2.4. "Not classified" entries below mean "not classified based on currently available data" — hazards cannot be excluded.

Acute Toxicity: No authoritative acute toxicity data (oral, dermal, or inhalation LD50/LC50) from OSHA, NIOSH, ECHA, or peer-reviewed literature have been located for Prostamax (CAS 473578-47-1). The toxicological profile of this substance is not fully characterized. Not classified based on currently available data; hazards cannot be excluded (GHS Rev.8, Chapter 1.3.2.4). Handle as if potentially harmful by ingestion, skin contact, and inhalation of dusts or aerosols until further data are available.

Skin Corrosion / Irritation: No in vivo or validated in vitro (OECD TG 404, 431, 439) skin irritation or corrosion data have been identified for this substance in ECHA, NIOSH, or peer-reviewed sources. Not classified based on currently available data; hazards cannot be excluded. Direct contact with the solid or with solutions may cause mechanical or transient irritation; use of impervious gloves is recommended.

Serious Eye Damage / Irritation: No validated eye irritation or serious eye damage data (OECD TG 405, 437, 438, 492) from authoritative sources are available for Prostamax. Not classified based on currently available data; hazards cannot be excluded. Dust or splashes may cause mechanical irritation to the eyes; eye protection meeting ANSI Z87.1 is recommended.

Skin / Respiratory Sensitization: No respiratory or skin sensitization data (OECD TG 406, 429, 442A-442E) from ECHA, NIOSH, or peer-reviewed literature have been located for this substance. Not classified based on currently available data; sensitization potential cannot be excluded. Avoid repeated or prolonged skin contact and inhalation of dusts.

Germ Cell Mutagenicity / Genotoxicity: Not classified based on currently available data; hazards cannot be excluded. Weight-of-evidence assessment applied using read-across from chemical class and structural considerations (GHS Rev.8 Chapter 1.3.2.4); no authoritative substance-specific study data identified.

Carcinogenicity: This substance is not listed as a carcinogen by IARC, the U.S. National Toxicology Program (NTP 15th Report on Carcinogens), OSHA (29 CFR 1910 Subpart Z), or the ACGIH TLV list. No carcinogenicity bioassays have been identified in peer-reviewed literature. Not classified based on currently available data; carcinogenic hazard cannot be excluded due to the absence of long-term studies.

Reproductive Toxicity: No reproductive toxicity, developmental toxicity, or endocrine-disruption studies (OECD TG 414, 416, 421, 422, 443) from ECHA, EPA, or peer-reviewed sources have been identified for this substance.
Not classified based on currently available data; reproductive or developmental hazards cannot be excluded. As a precaution, exposure of pregnant or nursing workers should be minimized.

Specific Target Organ Toxicity (STOT): No specific target organ toxicity data following single (STOT-SE, GHS Category 1-3) or repeated (STOT-RE, GHS Category 1-2) exposure have been identified for Prostamax in NIOSH, ECHA, or peer-reviewed literature; the toxicological properties of this substance are not fully characterized. Not classified for STOT-SE or STOT-RE based on currently available data; hazards to specific organs cannot be excluded. Occupational exposures should be controlled to as low as reasonably achievable pending further data.

Aspiration Hazard: Not classified based on currently available data; hazards cannot be excluded. Weight-of-evidence assessment applied using read-across from chemical class and structural considerations (GHS Rev.8 Chapter 1.3.2.4); no authoritative substance-specific study data identified.

Derived No-Effect Level (DNEL): No data available — no substance-specific DNEL has been derived.

Predicted No-Effect Concentration (PNEC): No data available — no substance-specific PNEC has been derived.

Section 12 — Ecological Information

No authoritative substance-specific ecotoxicity study data was identified. In the absence of experimental data, adverse environmental effects cannot be fully excluded.

Ecotoxicity: No substance-specific experimental aquatic toxicity data (e.g., fish LC50, Daphnia EC50, algal ErC50) were identified in authoritative regulatory sources (ECHA, EPA, PubChem) for Prostamax (CAS 473578-47-1). Not classified as hazardous to the aquatic environment under GHS/CLP based on a weight-of-evidence assessment in the absence of experimental data. The substance is a small tetrapeptide composed of naturally occurring L-amino acid residues (lysine, glutamic acid, aspartic acid, proline), which suggests low intrinsic aquatic toxicity, but this qualitative consideration does not replace measured data. Avoid release to the environment, surface waters, or drains.

Persistence and Degradability: No substance-specific ready biodegradability study (e.g., OECD 301 series) or hydrolysis/photolysis data were identified in authoritative sources for CAS 473578-47-1. Environmental persistence has not been experimentally established and cannot be assigned from regulatory data.

Bioaccumulative Potential: No experimental bioconcentration factor (BCF) or measured log Kow value was identified in authoritative sources (ECHA, EPA, PubChem) for CAS 473578-47-1. The molecule contains multiple ionizable carboxylic acid and amine groups, indicating a zwitterionic character and expected high water solubility, properties generally associated with low potential for bioaccumulation; however, in the absence of substance-specific experimental data, bioaccumulation potential is not definitively established.

Mobility in Soil: No substance-specific experimental data identified.

Other Adverse Effects: No other adverse environmental effects identified. The substance is not included on the Montreal Protocol list of ozone-depleting substances.

Section 13 — Disposal Considerations

Dispose of contents and container in accordance with all local, state, and federal regulations. Do not dispose of this material into sewers or waterways. Contact a licensed waste disposal company for disposal guidance.

US: Dispose in accordance with 40 CFR Parts 261-270 (RCRA). **EU:** Dispose according to Directive 2008/98/EC (Waste Framework Directive).

Section 14 — Transport Information

DOT (US)	Not regulated as dangerous goods under DOT (49 CFR) based on current classification.
IATA	Not regulated as dangerous goods under IATA Dangerous Goods Regulations based on current classification.
IMDG	Not regulated as dangerous goods or as a marine pollutant under the IMDG Code based on current classification.
UN Number	Not applicable.

Transport classifications above are based on the substance's intrinsic hazard classification; the shipper must independently verify the classification, packaging, labelling, and documentation requirements for their specific shipment configuration, quantity, and carrier (including airline policies) prior to dispatch.

Section 15 — Regulatory Information

United States

TSCA (Toxic Substances Control Act): May be eligible for exemption from TSCA inventory listing requirements under the R&D provisions of 40 CFR 720.36, depending on actual conditions of use. This substance is supplied solely for use in scientific research and development in small quantities; it is not intended for, and shall not be used for, any commercial manufacturing, processing, or distribution in commerce. The importer/end user is responsible for confirming that the R&D exemption criteria are met for their specific use. **OSHA HazCom 2012:** This SDS was prepared in accordance with 29 CFR 1910.1200 (HazCom 2012), aligned with the Globally Harmonized System (GHS) Rev. 8. **CERCLA / SARA Title III:** Not listed as a CERCLA Hazardous Substance (40 CFR 302.4); not subject to SARA 313 reporting based on available classification data. Users must independently verify applicability for their facility.

European Union

REACH (EC 1907/2006): Supplied solely for Scientific Research and Development (SR&D) use in quantities below 1 tonne per year per legal entity. Where applicable, this use may be exempt from REACH registration obligations under the scientific research and development provisions of REACH Article 3(23) and the conditions of Article 26(3); importers/users should independently verify the applicable exemption pathway for their specific use. If the substance is used as part of a formally notified Product and Process Oriented Research and Development (PPORD) programme, the separate notification procedure under REACH Article 9 (with a 5-year exemption renewable once) may apply instead. **CLP (EC 1272/2008):** Not classified under CLP based on available data; no harmonized classification entry identified in Annex VI of CLP or the ECHA Classification and Labelling (C&L) Inventory.

Canada

WHMIS 2015 / HPR: Not classified as a hazardous product under the Hazardous Products Act and Hazardous Products Regulations (SOR/2015-17) based on available data and weight-of-evidence assessment. Supplied for laboratory research use only. **DSL/NDSL:** Research-use exemption applies; substance is not intended for commercial import or manufacture in Canada.

Note: The regulatory statements above reflect the intended use of this substance for scientific research and development only and do not constitute a legal determination of regulatory status. If the substance is used outside the R&D exemption scope, users are solely responsible for independently verifying applicable regulatory obligations (TSCA, REACH, WHMIS, state, and local) for their specific use and jurisdiction prior to any such use.

Section 16 — Other Information

Document ID	e8f7fbf1-b601-4e34-8167-8eb2c7affe1b
Revision Date	2026-08-02
Version	1.0
Prepared By	Prepared in accordance with GHS Rev.8 and OSHA HazCom 2012 (29 CFR 1910.1200). Independent review by a qualified chemical safety professional is recommended prior to use.

Revision History

Revision date: 2026-08-02
Version: 1.0
Change description: Initial issue. Document prepared in 16-section GHS Rev.8 / OSHA HazCom 2012 format.

Sources Used

- PubChem (U.S. National Library of Medicine / NCBI) — https://pubchem.ncbi.nlm.nih.gov
- Peer-reviewed chemistry and toxicology literature (class-based read-across and weight-of-evidence assessment per GHS Rev.8 Chapter 1.3.2.4)
- OSHA HazCom 2012 / 29 CFR 1910.1200 Appendix A–C; GHS Rev.8; OECD Test Guidelines

Key to Abbreviations

CAS = Chemical Abstracts Service; GHS = Globally Harmonized System of Classification and Labelling of Chemicals; OSHA = U.S. Occupational Safety and Health Administration; HazCom = Hazard Communication Standard; REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals; CLP = Classification, Labelling and Packaging Regulation; TSCA = Toxic Substances Control Act; WHMIS = Workplace Hazardous Materials Information System; OEL = Occupational Exposure Limit; PEL = Permissible Exposure Limit; TLV = Threshold Limit Value; REL = Recommended Exposure Limit; STOT = Specific Target Organ Toxicity; LD50 = Median Lethal Dose; LC50 = Median Lethal Concentration; PPE = Personal Protective Equipment; SCBA = Self-Contained Breathing Apparatus; R&D = Research and Development.

Disclaimer

DISCLAIMER: The information in this Safety Data Sheet is compiled from the authoritative sources cited above, supplemented by weight-of-evidence assessment based on the compound's chemical class and published literature. It is believed to be accurate as of the revision date but is provided "as is" without warranty of any kind, express or implied, including fitness for a particular purpose. The preparer of this document has not independently tested the substance described herein. Users bear sole responsibility for verifying all information, ensuring safe handling, and compliance with all applicable federal, state, provincial, and local regulations. This SDS is not a substitute for independent chemical safety assessment by a qualified professional. This product is intended for scientific research and development use only and is not for human consumption, drug, food, cosmetic, agricultural, or household use.

This SDS complies with GHS Revision 8 / UN GHS Rev.8 and OSHA HazCom 2012 (29 CFR 1910.1200).