



SAFETY DATA SHEET

GHS / OSHA HazCom 2012 Compliant

Viking Stack Peptides

CJC-1295 without DAC (Modified GRF 1-29)

CAS: 863288-34-0

Formula: C152H252N44O42

Document ID: f8b6c033
Revision Date: 2026-09-11
Version: 1.0

Section 1 — Product and Company Identification

Product Name	CJC-1295 without DAC (Modified GRF 1-29)
Synonyms	CJC1295 Without DAC; CJC1295 With DAC; L-Lysinamide,L-tyrosyl-D-alanyl-L-a-aspartyl-L-alanyl-L-isoleucyl-L-phenylalanyl-L-threonyl-L-glutaminy-L-seryl-L-tyrosyl-L-arginyl-L-lysyl-L-valyl-L-leucyl-L-alanyl-L-glutaminy-L-seryl-L-alanyl-L-arginyl-L-lysyl-L-leucyl-L-leucyl-L-glutaminy-L-a-aspartyl-L-isoleucyl-L-leucyl-L-seryl-L-arginyl-N6-[3-(2,5-dihydro-2,5-dioxo-1H-
CAS Number	863288-34-0
PubChem CID	91976842
Molecular Formula	C152H252N44O42
IUPAC Name	4-[[[1-[[[1-[[[1-[[5-amino-1-[[[1-[[[1-[[6-amino-1-[[[1-[[[1-[[[5-amino-1-[[[1-[[[1-[[[1-[[6-amino-1-[[[1-[[[1-[[5-amino-1-[[[1-[[[1-[[[1-[[(1-amino-5-carbamimidamido-1-oxopentan-2-yl)amino]-3-hydroxy-1-oxopropan-2-yl]amino]-4-methyl-1-oxopentan-2-yl]amino]-3-methyl-1-oxopentan-2-yl]amino]-3-carboxy-1-oxopropan-2-yl]amino]-1,5-dioxopentan-2-yl]amino]-4-methyl-1-oxopentan-2-yl]amino]-4-methyl-1-oxopentan-2-yl]amino]-1-oxohexan-2-yl]amino]-5-carbamimidamido-1-oxopentan-2-yl]amino]-1-oxopropan-2-yl]amino]-3-hydroxy-1-oxopropan-2-yl]amino]-4-methyl-1-oxopentan-2-yl]amino]-1,5-dioxopentan-2-yl]amino]-1-oxopropan-2-yl]amino]-4-methyl-1-oxopentan-2-yl]amino]-3-methyl-1-oxobutan-2-yl]amino]-1-oxohexan-2-yl]amino]-5-carbamimidamido-1-oxopentan-2-yl]amino]-3-(4-hydroxyphenyl)-1-oxopropan-2-yl]amino]-3-hydroxy-1-oxopropan-2-yl]amino]-1,5-dioxopentan-2-yl]amino]-3-hydroxy-1-oxobutan-2-yl]amino]-1-oxo-3-phenylpropan-2-yl]amino]-3-methyl-1-oxopentan-2-yl]amino]-1-oxopropan-2-yl]amino]-3-

	[2-[[2-amino-3-(4-hydroxyphenyl)propanoyl]amino]propanoylamino]-4-oxobutanoic 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	Viking Stack Peptides
Address	560, Fort Worth, TX 76137, United States
Phone	8178816217
Emergency Phone	8178816217

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
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CJC-1295 without DAC (Modified GRF 1-29)	863288-34-0	C152H252N44O42	3367.9 g/mol	>98% (research grade)
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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 in accordance with good industrial hygiene and laboratory safety practice as required by OSHA HazCom 2012 (29 CFR 1910.1200) and the OSHA Laboratory Standard (29 CFR 1910.1450). Because the toxicological profile of this synthetic peptide has not been fully characterized, treat it as a potentially bioactive substance of unknown toxicity and minimize all routes of exposure (inhalation of dust, skin/eye contact, ingestion). Weigh, transfer, and reconstitute the lyophilized powder inside a certified chemical fume hood, ventilated balance enclosure, or Class I/II biosafety cabinet to control airborne particulates, consistent with NIOSH recommendations in the current NIOSH Pocket Guide and NIOSH Publication 2007-107 ("Prevention through Design") for compounds lacking established occupational exposure limits. Wear personal protective equipment appropriate for a hazardous chemical of unknown potency: chemical splash goggles meeting ANSI Z87.1, a lab coat, and chemical-resistant gloves (nitrile) selected per ANSI/ISEA 105; use a NIOSH-approved N95 or higher particulate respirator if engineering controls cannot prevent airborne exposure (respirator use per 29 CFR 1910.134). Avoid generating dust or aerosols; use anti-static or lint-free wipes and keep containers closed when not in use. Do not eat, drink, smoke, or apply cosmetics in areas where the substance is handled (29 CFR 1910.141). Wash hands and exposed skin thoroughly after handling. Ground and bond containers when transferring to prevent electrostatic accumulation of the fine powder. Allow refrigerated or frozen vials to equilibrate to room temperature in a sealed desiccator before opening to prevent condensation of atmospheric moisture onto the hygroscopic peptide, consistent with general peptide handling guidance published by PubChem and peer-reviewed peptide chemistry literature. Reconstituted solutions should be prepared in single-use aliquots to avoid repeated freeze/thaw cycles.

Storage Conditions

Store the lyophilized (powder) substance in the tightly closed original container under an inert, dry atmosphere, protected from light, moisture, heat, and incompatible materials. Recommended long-term storage of the solid is at -20 degC or colder in a frost-free freezer dedicated to non-food chemical storage; short excursions to 2-8-degC are acceptable for near-term working stocks. These conditions are consistent with general peptide-stability guidance summarized on PubChem (CID for CAS 863288-34-0) and in peer-reviewed peptide-handling references, which recommend that lyophilized peptides be maintained frozen, desiccated, and shielded from light to minimize hydrolysis, oxidation, deamidation, and racemization. Reconstituted aqueous solutions are inherently less stable and, once prepared, should be stored refrigerated at 2-8 degC in sealed, inert (e.g., borosilicate glass or low-binding polypropylene) containers and used promptly; long-term storage of solutions should be as single-use frozen aliquots to avoid repeated freeze/thaw. Keep containers upright, tightly sealed, and clearly labeled in accordance with 29 CFR 1910.1200(f). Store away from direct sunlight, ignition sources, and areas subject to temperature fluctuation. Segregate from incompatible materials (see below) in a manner consistent with NFPA 45 (Fire Protection for Laboratories Using Chemicals) and OSHA 29 CFR 1910.1450 laboratory chemical hygiene requirements. No specific shelf-life is asserted here; verify identity and purity (e.g., by HPLC/MS) before use if storage duration is uncertain.

Incompatibilities

Keep away from strong oxidizing agents (e.g., peroxides, peroxyacids, hypochlorites, nitrates, permanganates, chromates, concentrated nitric acid), which can oxidize methionine, tryptophan, tyrosine, and cysteine residues and degrade the peptide backbone. Avoid contact with strong acids and strong bases (pH >8 in particular promotes deamidation of asparagine/glutamine and base-catalyzed hydrolysis, as noted in peer-reviewed peptide-stability

literature). Incompatible with strong reducing agents, electrophilic reagents, aldehydes, and alkylating agents that can react with free amine, guanidinium, hydroxyl, or amide functionalities present in the sequence. Protect from moisture and humid air (hydrolysis of amide bonds) and from prolonged exposure to atmospheric oxygen and light (oxidative and photolytic degradation). Avoid elevated temperatures and repeated freeze/thaw cycles of aqueous solutions. No specific hazardous polymerization is known. Combustion or thermal decomposition can release hazardous gases including carbon monoxide, carbon dioxide, oxides of nitrogen (NO_x), and other irritating organic pyrolysis products, as expected for a polypeptide of empirical formula C₁₅₂H₂₅₂N₄₄O₄₂ (Section 10/5 of a compliant SDS).

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. Handle as a potentially bioactive substance of unknown toxicity. Where facility-specific occupational exposure banding is used, employers may consult the NIOSH Occupational Exposure Banding Process (NIOSH Publication 2019-132) as a framework, but no band has been officially assigned to CAS 863288-34-0.

Note: Any internal exposure band or in-house guidance value stated above is industry guidance, not a regulatory limit, and should not be interpreted as an established OEL unless explicitly cited to OSHA, ACGIH, NIOSH, or an equivalent regulatory body.

Engineering Controls

Handle only in areas equipped with appropriate ventilation. Weighing, dissolution, and aliquoting of the dry peptide powder should be performed inside a ventilated enclosure such as a certified chemical fume hood, ventilated balance enclosure, or Class II biological safety cabinet in order to prevent inhalation of airborne particulates, consistent with the hierarchy of controls described in 29 CFR 1910.1200 and the general recommendations of the NIOSH Alert on Preventing Occupational Exposure to Antineoplastic and Other Hazardous Drugs in Health Care Settings (NIOSH Publication 2004-165) and USP <800> for handling substances of undefined occupational hazard. Provide readily accessible emergency eyewash and safety shower stations meeting ANSI/ISEA Z358.1 in areas where the substance is handled. Prohibit eating, drinking, smoking, and application of cosmetics in work areas. Maintain good industrial hygiene practices including hand washing before breaks and at the end of the shift. Keep containers tightly closed when not in use and store away from incompatible materials.

Personal Protective Equipment

Respiratory Protection: Under normal laboratory-scale handling within a functioning fume hood or containment enclosure, no respiratory protection is typically required. If engineering controls are not sufficient to prevent inhalation of dusts, mists, or aerosols, or during operations that may generate airborne particulate (e.g., weighing of dry powder outside a hood, sonication of solutions, lyophilization), wear a NIOSH-approved (42 CFR Part 84) air-purifying respirator equipped with N100/P100 particulate filters, or a powered air-purifying respirator (PAPR) with HEPA filters. Respirator selection, fit testing, and use must comply with the OSHA Respiratory Protection Standard (29 CFR 1910.134).

Hand Protection: Wear chemically resistant, powder-free disposable gloves such as nitrile examination gloves meeting ASTM D6319. Double-gloving is recommended when handling the dry powder or concentrated solutions, in line with USP <800> recommendations for handling substances of undefined occupational hazard. Inspect gloves prior to use, change immediately if contamination, degradation, or puncture is suspected, and change at least every 30 minutes during extended handling or per the glove manufacturer's permeation data. Wash hands thoroughly with soap and water after glove removal. Glove selection should be verified using breakthrough data provided by the glove manufacturer for aqueous/DMSO peptide solutions as applicable.

Eye / Face Protection: Wear tight-fitting safety glasses with side shields meeting ANSI/ISEA Z87.1 as a minimum. Chemical splash goggles meeting ANSI/ISEA Z87.1 are required when handling solutions, when there is any risk of splash, or when working outside a fume hood. A full-face shield worn over goggles is recommended for operations with a higher splash or aerosol potential (e.g., transferring larger volumes, reconstitution outside a containment enclosure). Contact lenses should not be relied upon as eye protection.

Skin Protection: Wear a chemically resistant, long-sleeved laboratory coat that fastens at the back or a disposable chemotherapy-type gown with closed front and knit cuffs, consistent with USP <800> recommendations for handling substances of undefined occupational hazard. Contaminated clothing should be removed promptly and laundered or disposed of as chemical waste; do not launder contaminated garments at home. Wear closed-toe, chemically resistant footwear that fully covers the foot. Cover any exposed skin and use additional disposable sleeve covers if there is potential for splash or dust contact. Remove and dispose of PPE in accordance with institutional hazardous-waste procedures before leaving the work area, and wash hands and any potentially exposed skin thoroughly with soap and water.

Section 9 — Physical and Chemical Properties

Physical State	Solid (research-grade lyophilised powder or crystalline solid)
Appearance	White to off-white lyophilized powder
Odor	Odorless
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	Soluble in water; soluble in dilute acetic acid
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	3367.9 g/mol
Molecular Formula	C152H252N44O42

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: Keep away from strong oxidizing agents (e.g., peroxides, peroxyacids, hypochlorites, nitrates, permanganates, chromates, concentrated nitric acid), which can oxidize methionine, tryptophan, tyrosine, and cysteine residues and degrade the peptide backbone. Avoid contact with strong acids and strong bases (pH >8 in particular

promotes deamidation of asparagine/glutamine and base-catalyzed hydrolysis, as noted in peer-reviewed peptide-stability literature). Incompatible with strong reducing agents, electrophilic reagents, aldehydes, and alkylating agents that can react with free amine, guanidinium, hydroxyl, or amide functionalities present in the sequence. Protect from moisture and humid air (hydrolysis of amide bonds) and from prolonged exposure to atmospheric oxygen and light (oxidative and photolytic degradation). Avoid elevated temperatures and repeated freeze/thaw cycles of aqueous solutions. No specific hazardous polymerization is known. Combustion or thermal decomposition can release hazardous gases including carbon monoxide, carbon dioxide, oxides of nitrogen (NO_x), and other irritating organic pyrolysis products, as expected for a polypeptide of empirical formula C₁₅₂H₂₅₂N₄₄O₄₂ (Section 10/5 of a compliant SDS).

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

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: Acute toxicity data specific to CJC-1295 without DAC (CAS 863288-34-0) are not fully characterized. No acute oral, dermal, or inhalation LD₅₀/LC₅₀ values from authoritative sources (ECHA, NIOSH, NTP, or peer-reviewed literature indexed in PubChem CID 91976842) have been located for this substance. Not classified for acute toxicity based on currently available data; hazards cannot be excluded (GHS Rev.8, Chapter 1.3.2.4). Handle as a substance of unknown acute toxicity and minimize exposure by all routes (inhalation of dust/aerosol, skin contact, eye contact, and ingestion).

Skin Corrosion / Irritation: No experimental skin irritation or corrosion data for CJC-1295 without DAC have been identified in authoritative sources (ECHA dossiers, PubChem CID 91976842, or peer-reviewed literature). Not classified for skin corrosion/irritation based on currently available data; hazards cannot be excluded (GHS Rev.8, Chapter 1.3.2.4). Mechanical irritation from the solid or dust is possible; prevent direct skin contact.

Serious Eye Damage / Irritation: No experimental eye irritation or serious eye damage data for CJC-1295 without DAC have been identified in authoritative sources (ECHA, PubChem CID 91976842, or peer-reviewed literature). Not classified for serious eye damage/eye irritation based on currently available data; hazards cannot be excluded (GHS Rev.8, Chapter 1.3.2.4). Dust or solutions may cause mechanical or transient irritation upon direct ocular contact.

Skin / Respiratory Sensitization: No experimental respiratory or skin sensitization data (e.g., LLNA, guinea pig maximization, or human predictive tests) for CJC-1295 without DAC have been identified in authoritative sources (ECHA, NIOSH, or peer-reviewed literature indexed in PubChem CID 91976842). As a high-molecular-weight (approx. 3368 Da) polypeptidic substance composed exclusively of L- and D-amino acid residues, a potential to elicit immunogenic responses (including antibody formation) following repeated parenteral or inhalation exposure cannot be excluded, consistent with general observations for therapeutic polypeptides. Not classified for sensitization based on currently available data; hazards cannot be excluded (GHS Rev.8, Chapter 1.3.2.4).

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: CJC-1295 without DAC (CAS 863288-34-0) is not listed as a carcinogen by IARC, NTP (Report on Carcinogens), OSHA (29 CFR 1910.1003 or Subpart Z), ACGIH, or the EU CLP Annex VI. No long-term carcinogenicity bioassays have been identified in the peer-reviewed literature or in PubChem CID 91976842. Not classified for carcinogenicity based on currently available data; hazards cannot be excluded (GHS Rev.8, Chapter 1.3.2.4).

Reproductive Toxicity: No experimental reproductive or developmental toxicity studies (OECD 414, 416, 421, 422, or equivalent) for CJC-1295 without DAC have been identified in authoritative sources (ECHA, NTP, or peer-reviewed literature indexed in PubChem CID 91976842). The substance is not listed on the California Proposition 65 list of chemicals known to cause reproductive toxicity. Not classified for reproductive toxicity based on currently available data; hazards cannot be excluded (GHS Rev.8, Chapter 1.3.2.4).

Specific Target Organ Toxicity (STOT): Specific target organ toxicity following single exposure (STOT-SE) and repeated exposure (STOT-RE) have not been characterized for CJC-1295 without DAC. No subacute, subchronic, or chronic repeated-dose toxicity studies (e.g., OECD 407, 408, 409, or 452) have been identified in authoritative sources (ECHA, NTP, or peer-reviewed literature indexed in PubChem CID 91976842), and no occupational exposure limits (OSHA PEL, NIOSH REL, ACGIH TLV) have been established. Not classified for STOT-SE or STOT-RE based on currently available data; hazards cannot be excluded (GHS Rev.8, Chapter 1.3.2.4). Repeated or prolonged occupational exposure should be minimized as a precaution.

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 ecotoxicity data (e.g., fish LC50, Daphnia EC50, algal ErC50) have been identified in authoritative sources (PubChem, ECHA, EPA ECOTOX, NIOSH) for CJC-1295 without DAC (CAS 863288-34-0). Not classified as hazardous to the aquatic environment (acute or chronic) under GHS/CLP based on a weight-of-evidence assessment in the absence of experimental data. As a synthetic 29-amino-acid polypeptide of high molecular weight (approx. 3368 g/mol), systemic uptake and acute aquatic toxicity are expected to be limited by low passive membrane permeability; however, this is a qualitative consideration and does not substitute for experimental testing. Prevent release to surface water, groundwater, soil, and sewer systems.

Persistence and Degradability: No substance-specific experimental biodegradation, hydrolysis, or photodegradation data (e.g., OECD 301/310 ready biodegradability studies) have been identified in authoritative sources for this substance. As a linear peptide composed of proteinogenic and D-amino-acid residues linked by amide (peptide) bonds, susceptibility to enzymatic and abiotic hydrolysis in environmental matrices is anticipated on a mechanistic basis, but a definitive persistence classification cannot be assigned without experimental data.

Bioaccumulative Potential: No experimentally determined log K_{ow} (n-octanol/water partition coefficient) or bioconcentration factor (BCF) values from authoritative sources have been identified for CJC-1295 without DAC. The high molecular weight (approx. 3368 g/mol) exceeds the ECHA REACH Annex XIII/R.11 molecular-weight cut-off commonly considered to limit passage across biological membranes (>800-1000 g/mol), suggesting a low potential for bioaccumulation; this is a qualitative read-across argument and not a substitute for measured BCF data. The substance is not classified as bioaccumulative (B) or very bioaccumulative (vB) based on this weight-of-evidence assessment.

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	f8b6c033-0f1c-4e40-a196-929c4150ed42
Revision Date	2026-09-11
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: 2026-09-11
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).