DSIP

CAS: 62568-57-4
Formula: C35H48N10O15

Document ID: f10d8861
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Version: 1.0

Section 1 — Product and Company Identification

Product Name	DSIP
Synonyms	Emideltide; 62568-57-4; DSIP nonapeptide
CAS Number	62568-57-4
Molecular Formula	C35H48N10O15
IUPAC Name	(2S)-2-[[2-[[(2S)-2-[[(2S)-2-[[(2S)-2-[[2-[[2-[[(2S)-2-[[(2S)-2-amino-3-(1H-indol-3-yl) propanoyl]amino]propanoyl]amino]acetyl]amino] acetyl]amino]-3-carboxypropanoyl]amino]propanoyl] amino]-3-hydroxypropanoyl]amino]acetyl]amino] pentanedioic 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	Ruo.bio
Address	30 N Gould St, Sheridan, WY 82801, US
Phone	+1-804-636-6879
Website	https://ruo.bio/
Emergency Phone	+1(804)636-6879 - Monday-Friday: 9:00 AM - 5:00 PM Pacific

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
DSIP	62568-57-4	C35H48N10O15	848.8 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 DSIP (CAS 62568-57-4) as a biologically active research peptide of unknown toxicological profile; in accordance with OSHA's Laboratory Standard (29 CFR 1910.1450) and HazCom 2012 (29 CFR 1910.1200), treat all substances of unknown toxicity as toxic. Perform all weighing, transfer, and reconstitution operations in a certified chemical fume hood or laminar-flow enclosure to control airborne particulates of this fine lyophilized solid. Wear chemically resistant nitrile gloves, a buttoned lab coat, and ANSI Z87.1-compliant safety eyewear; add an N95 (or higher) respirator when bulk powder handling cannot be enclosed, consistent with NIOSH respiratory-protection guidance. Avoid generating dust, aerosols, or mists; do not inhale, ingest, or allow contact with skin, eyes, or clothing. Use anti-static tools and ground containers when transferring dry powder. Prohibit eating, drinking, smoking, and cosmetic use in the work area, and wash hands and exposed skin thoroughly after handling and before breaks (29 CFR 1910.141). Keep containers tightly closed when not in use and minimize the time the vial is open to limit moisture uptake by the hygroscopic peptide. Reconstituted aqueous solutions should be prepared immediately before use, aliquoted to avoid repeated freeze-thaw, and handled with universal precautions. Decontaminate work surfaces and reusable equipment after use; collect all solids, solutions, and contaminated PPE as hazardous chemical waste in compliance with 40 CFR 262 (EPA RCRA) and applicable state/local rules. Maintain eyewash and safety shower access per ANSI Z358.1.

Storage Conditions

Store the lyophilized peptide tightly sealed in its original container under an inert, dry atmosphere (argon or nitrogen headspace recommended) at -20 degC or colder for routine storage; for long-term storage, -80 degC is preferred, consistent with general peptide-storage practice. Protect from light, moisture, and heat by keeping vials in a desiccated, dark enclosure (amber vial or secondary opaque container with desiccant). Allow sealed vials to equilibrate to room temperature in a desiccator before opening to prevent condensation onto the hygroscopic solid. Reconstituted solutions should be stored frozen in single-use aliquots; avoid repeated freeze-thaw cycles, which promote hydrolysis and aggregation of peptide bonds. Do not store with food, beverages, or animal feed. Segregate from incompatible materials in a dedicated, labeled chemical storage area meeting the requirements of 29 CFR 1910.1450 and HazCom 2012 (29 CFR 1910.1200). Storage refrigerators/freezers must be laboratory-rated (non-sparking, suitable for chemical storage); do not use domestic units. Ensure secondary containment to capture leakage, and maintain a current inventory and SDS access for the material.

Incompatibilities

Keep away from strong oxidizing agents (e.g., peroxides, perchlorates, permanganates, nitrates, hypochlorites, chlorine, chlorine dioxide), which can oxidize the tryptophan residue and indole side chain of this peptide. Avoid contact with strong acids and strong bases, which catalyze peptide-bond hydrolysis and racemization, and with strong reducing agents that can disrupt the peptide backbone and side-chain functional groups (carboxyl, hydroxyl, indole, amide). Incompatible with electrophilic alkylating and acylating agents, aldehydes (e.g., formaldehyde, glutaraldehyde), and isothiocyanates, which can derivatize free amine and indole groups. Protect from moisture/humidity (promotes hydrolysis), elevated temperatures, and direct UV/visible light (promotes photodegradation of the tryptophan residue). Avoid heavy-metal ion contamination (Cu2+, Fe3+), which can catalyze oxidative degradation. Follow general chemical-segregation guidance such as the NIH/ORS Chemical Segregation and Storage Table and NRC Prudent Practices in the Laboratory referenced in 29 CFR 1910.1450 Appendix A when co-locating with other laboratory chemicals.

Section 8 — Exposure Controls / Personal Protection

Exposure Limits

No regulatory occupational exposure limits (OEL) have been established by OSHA, ACGIH, NIOSH, or equivalent bodies for DSIP (Delta Sleep-Inducing Peptide, CAS 62568-57-4). No biological exposure indices (BEIs) have been established. Handle as a potentially bioactive substance of unknown toxicity and control exposure to the lowest level reasonably achievable (ALARA) using the engineering controls and PPE specified below.

Engineering Controls

Use in a well-ventilated area with local exhaust ventilation (LEV) sufficient to keep airborne concentrations as low as reasonably achievable. For weighing, transferring, or otherwise manipulating the dry peptide powder, work inside a containment primary engineering control such as a certified chemical fume hood, ventilated balance enclosure, Class II biosafety cabinet, or glove box, consistent with the hierarchy of controls described in the OSHA Technical Manual and NIOSH guidance for handling active pharmaceutical ingredients and bioactive powders. Solutions should be prepared and dispensed in a fume hood or biosafety cabinet to minimize aerosol generation. Provide accessible emergency eyewash and safety shower stations in the work area in accordance with ANSI/ISEA Z358.1. Do not eat, drink, smoke, or store food in areas where the substance is handled. Wash hands and exposed skin thoroughly after handling and before breaks.

Personal Protective Equipment

Respiratory Protection: No regulatory exposure limit has been established; respiratory protection is not normally required when handling small quantities within a properly functioning fume hood or containment device. Where engineering controls are inadequate, where dust or aerosols may be generated (e.g., weighing the dry powder on the open bench, lyophilization, or large-scale operations), wear a NIOSH-approved (42 CFR Part 84) air-purifying

respirator equipped with an N100, P100, or equivalent HEPA particulate filter. For solutions producing mists, use a NIOSH-approved respirator with combination particulate/organic vapor cartridges as appropriate. All respirator use in the United States must comply with a written respiratory protection program meeting OSHA 29 CFR 1910.134, including fit-testing, medical clearance, and training. In the EU, use respirators conforming to EN 149 (FFP3) or EN 143 (P3).

Hand Protection: Wear chemically resistant, disposable nitrile gloves (minimum 4-8 mil) conforming to EN ISO 374-1/-5 and OSHA 29 CFR 1910.138. Because no permeation data specific to DSIP are available, use double gloving when handling the neat powder or concentrated solutions, and replace gloves immediately after any visible contamination, suspected breakthrough, puncture, or tear. Remove gloves carefully to avoid skin contact and wash hands thoroughly with soap and water after glove removal.

Eye / Face Protection: Wear tight-fitting chemical safety goggles meeting ANSI/ISEA Z87.1 (US) or EN 166 (EU) when handling the solid or solutions. A full-face shield worn over goggles is recommended for operations with splash, spray, or aerosol potential, or when working outside a fume hood. Contact lenses should not be worn as a substitute for eye protection. An emergency eyewash station meeting ANSI/ISEA Z358.1 must be available within 10 seconds of the work area.

Skin Protection: Wear a long-sleeved laboratory coat or chemical-resistant gown (closed front, knit cuffs) over standard work clothing, full-length trousers, and closed-toe chemical-resistant footwear in accordance with OSHA 29 CFR 1910.132. For operations with significant splash, spill, or aerosol potential, wear a disposable chemical-resistant apron or coverall (e.g., polyethylene-coated) over the lab coat. Remove and segregate contaminated clothing immediately; launder reusable garments separately from personal clothing before reuse and dispose of contaminated single-use PPE as chemical waste. Decontaminate work surfaces after use, and do not wear potentially contaminated PPE outside the designated work area.

Section 9 — Physical and Chemical Properties

Physical State	Solid (research-grade lyophilised powder or crystalline solid)
Appearance	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
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	848.8 g/mol
Molecular Formula	C35H48N10O15

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, perchlorates, permanganates, nitrates, hypochlorites, chlorine, chlorine dioxide), which can oxidize the tryptophan residue and indole side chain of this peptide. Avoid contact with strong acids and strong bases, which catalyze peptide-bond hydrolysis and racemization, and with strong reducing agents that can disrupt the peptide backbone and side-chain functional groups (carboxyl, hydroxyl, indole, amide). Incompatible with electrophilic alkylating and acylating agents, aldehydes (e.g., formaldehyde, glutaraldehyde), and isothiocyanates, which can derivatize free amine and indole groups. Protect from moisture/-humidity (promotes hydrolysis), elevated temperatures, and direct UV/visible light (promotes photodegradation of the tryptophan residue). Avoid heavy-metal ion contamination (Cu2+, Fe3+), which can catalyze oxidative degradation. Follow general chemical-segregation guidance such as the NIH/ORS Chemical Segregation and Storage Table and NRC Prudent Practices in the Laboratory referenced in 29 CFR 1910.1450 Appendix A when co-locating with other laboratory chemicals.

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: Acute toxicity data for DSIP (CAS 62568-57-4) in humans and experimental animals have not been fully characterized in authoritative regulatory compilations. No quantitative oral, dermal, or inhalation LD50/LC50 values for this substance are reported by NIOSH, ECHA, or OSHA. Not classified for acute toxicity (Categories 1-4) based on currently available data; hazards cannot be excluded (GHS Rev.8, S1.3.2.4). Handle as a substance of unknown acute toxicity and minimize all routes of exposure (oral, dermal, inhalation of dust/aerosol, and ocular).

Skin Corrosion / Irritation: No data from authoritative sources (ECHA, NIOSH, peer-reviewed literature) are available regarding skin corrosion or irritation for DSIP. Not classified for skin corrosion/irritation based on currently available data; hazards cannot be excluded. Direct skin contact with the solid or with concentrated solutions should be avoided as a precaution.

Serious Eye Damage / Irritation: No data from authoritative sources are available regarding serious eye damage or eye irritation for DSIP. Not classified for serious eye damage/eye irritation based on currently available data; hazards cannot be excluded. Mechanical irritation from particulates of the solid is plausible; eye contact should be prevented.

Skin / Respiratory Sensitization: No data from authoritative sources are available regarding respiratory or skin sensitization for DSIP. Not classified for respiratory or skin sensitization based on currently available data; hazards cannot be excluded. As with other proteinaceous/oligopeptide materials, the potential for sensitization following repeated inhalation or dermal exposure to airborne particulates cannot be ruled out in the absence of specific testing.

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: DSIP (CAS 62568-57-4) is not listed by IARC, the U.S. National Toxicology Program (NTP) Report on Carcinogens, OSHA (29 CFR 1910 Subpart Z), the U.S. EPA IRIS program, or the ACGIH carcinogen list. No carcinogenicity bioassays from authoritative sources have been identified. Not classified for carcinogenicity based on currently available data; hazards cannot be excluded (GHS Rev.8, S1.3.2.4).

Reproductive Toxicity: No reproductive toxicity, developmental toxicity, or effects-on-or-via-lactation data for DSIP are available from authoritative sources (ECHA, NTP, EPA). Not classified for reproductive toxicity based on currently available data; hazards cannot be excluded. The substance has not been evaluated in standard OECD reproductive or developmental toxicity test guideline studies in any compilation reviewed.

Specific Target Organ Toxicity (STOT): Specific target organ toxicity - single exposure (STOT-SE) and specific target organ toxicity - repeated exposure (STOT-RE): The toxicological properties of DSIP are not fully characterized, and no STOT-SE or STOT-RE endpoint data are available from authoritative sources (ECHA, NIOSH, NTP, peer-reviewed regulatory toxicology literature). Not classified for STOT-SE or STOT-RE based on currently available data; hazards cannot be excluded (GHS Rev.8, S1.3.2.4). No occupational exposure limits (OSHA PEL, NIOSH REL, ACGIH TLV) have been established for this substance.

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) have been identified in authoritative sources (ECHA, EPA ECOTOX, PubChem) for DSIP (CAS 62568-57-4). Not classified as hazardous to the aquatic environment based on weight-of-evidence assessment (no authoritative experimental data identified). Prevent release to surface waters, drains, and soil pending further data.

Persistence and Degradability: No substance-specific experimental biodegradation or abiotic degradation data (e.g., OECD 301 series) have been identified for DSIP in authoritative sources. Environmental persistence cannot be reliably characterized from available information.

Bioaccumulative Potential: No experimentally determined log Kow, bioconcentration factor (BCF), or bioaccumulation factor (BAF) has been identified for DSIP in authoritative sources (PubChem CID 68816, ECHA). Given the high molecular weight (848.8 g/mol) and multiple ionizable/polar functional groups, significant bioaccumulation is not anticipated, but this assessment is qualitative in the absence of substance-specific experimental data.

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	f10d8861-6a29-488a-bfe4-a7e14609e26a
Revision Date	2026-08-13
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: 2026-08-13
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).