BPC-157

CAS: 137525-51-0
Formula: C62H98N16O22

Document ID: d6db40c2
Revision Date: 2026-08-13
Version: 1.0

Section 1 — Product and Company Identification

Product Name	BPC-157
Synonyms	137525-51-0; Bpc 157; Bpc-157
CAS Number	137525-51-0
Molecular Formula	C62H98N16O22
IUPAC Name	(4S)-4-[(2-aminoacetyl)amino]-5-[(2S)-2-[(2S)-2-[(2S)-2-[[2-[[(2S)-6-amino-1-[(2S)-2-[[(2S)-1-[[(2S)-3-carboxy-1-[[(2S)-3-carboxy-1-[[(2S)-1-[[2-[[(2S)-1-[[(1S)-1-carboxy-2-methylpropyl]amino]-4-methyl-1-oxopentan-2-yl]amino]-2-oxoethyl]amino]-1-oxopropan-2-yl]amino]-1-oxopropan-2-yl]amino]-1-oxopropan-2-yl]amino]-1-oxopropan-2-yl]carbamoyl]pyrrolidin-1-yl]-1-oxohexan-2-yl]amino]-2-oxoethyl]carbamoyl]pyrrolidine-1-carbonyl]pyrrolidine-1-carbonyl]pyrrolidin-1-yl]-5-oxopentanoic 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
BPC-157	137525-51-0	C62H98N16O22	1419.5 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 BPC-157 (CAS 137525-51-0) as a potentially bioactive synthetic peptide of unknown toxicological profile; apply the precautionary principle and minimize all routes of exposure. Conduct weighing, transfer, and reconstitution operations in a certified chemical fume hood, ventilated enclosure, or Class II biosafety cabinet to control inhalation of dusts and aerosols generated when handling the dry lyophilized powder. Wear appropriate personal protective equipment (PPE) as specified in Section 8, including chemical-resistant nitrile gloves, safety glasses with side shields or chemical splash goggles, and a laboratory coat; use a NIOSH-approved N95 (or higher) respirator if engineering controls are inadequate to prevent airborne exposure. Avoid generation of dust; do not breathe dust, mist, or vapor. Avoid contact with skin, eyes, and clothing. Do not eat, drink, smoke, or apply cosmetics in areas where this material is handled. Wash hands and exposed skin thoroughly with soap and water after handling and before breaks and at the end of the workday, per OSHA hygiene practices under 29 CFR 1910.1200. Use only clean, dry glassware or polypropylene

labware for transfers; allow vials removed from cold storage to equilibrate to room temperature in a desiccator before opening to prevent condensation of atmospheric moisture onto the hygroscopic powder. Use ground-fault protected equipment and avoid electrostatic discharge when handling the dry powder. Provide eyewash stations and safety showers in the work area in accordance with 29 CFR 1910.151(c) and ANSI Z358.1. Decontaminate work surfaces and reusable equipment after use; collect waste in clearly labeled, closed containers for disposal in accordance with Section 13.

Storage Conditions

Store the lyophilized solid in tightly closed, original containers under an inert atmosphere (e.g., argon or nitrogen) where practicable, protected from light, moisture, and heat. Per published peptide-handling guidance (e.g., NIBSC Peptide Handling, Dissolution & Storage), dry synthetic peptides are best preserved long-term at -20 degC or colder; short-term storage at 2-8 degC is acceptable for working stocks. Keep containers in a desiccator or with a desiccant to prevent moisture uptake by the hygroscopic peptide. Reconstituted aqueous solutions are markedly less stable than the lyophilized solid and should be aliquoted to minimize freeze-thaw cycles and stored frozen, protected from light and microbial contamination; prepare fresh working solutions as needed. Store in a cool, dry, well-ventilated area away from direct sunlight, ignition sources, and incompatible materials (see below), consistent with the NIH Chemical Segregation and Storage guidance. Keep out of reach of unauthorized personnel and label containers in accordance with 29 CFR 1910.1200(f). Do not return unused material to the original container. Observe any manufacturer-stated expiration or retest date; do not infer shelf life beyond what is documented on the certificate of analysis.

Incompatibilities

Avoid contact with strong oxidizing agents (e.g., peroxides, hypochlorites, permanganates, nitric acid, chromates), which can oxidize methionine, tryptophan, cysteine, and other susceptible residues and amide linkages in the peptide backbone. Avoid strong acids and strong bases, which can promote hydrolysis of peptide bonds and side-chain deamidation. Avoid strong reducing agents that may disrupt structure. Protect from moisture, elevated temperatures, direct sunlight, and ultraviolet light, all of which can accelerate hydrolytic and oxidative degradation. Avoid prolonged exposure to atmospheric oxygen and to trace transition-metal ions (e.g., Fe, Cu) that can catalyze oxidation. Hazardous decomposition products may include carbon oxides (CO, CO2) and nitrogen oxides (NOx) upon thermal decomposition, as is typical for nitrogen-containing organic compounds; refer to Section 10 for further stability and reactivity information.

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.

Engineering Controls

Handle in a well-ventilated area. Use local exhaust ventilation, a certified chemical fume hood, or a containment device such as a ventilated balance enclosure / powder weighing hood when weighing or otherwise manipulating the dry peptide powder, to minimize generation of and exposure to airborne particulates. For larger-scale operations or where dust generation is likely, use closed-system transfer or a glovebox/isolator. Provide readily accessible emergency eyewash and safety shower in the work area in accordance with ANSI Z358.1. Do not eat, drink, smoke, or store food in areas where this substance is handled. Wash hands thoroughly after handling. Surfaces and equipment should be decontaminated after use. Apply the hierarchy of controls (elimination/substitution, engineering controls, administrative controls, PPE) consistent with OSHA 29 CFR 1910.1450 and 1910.132 where applicable.

Personal Protective Equipment

Respiratory Protection: Respiratory protection is generally not required when handling small quantities within a properly functioning chemical fume hood or containment device. Where engineering controls are not sufficient to control airborne particulates (e.g., open weighing of dry powder outside containment, bulk handling), wear an appropriately fit-tested NIOSH-approved air-purifying respirator with N100/P100 particulate filters (42 CFR Part 84). Selection, use, fit testing, and medical clearance must comply with OSHA 29 CFR 1910.134. For unknown airborne concentrations or potentially high exposures, use a powered air-purifying respirator (PAPR) or supplied-air respirator.

Hand Protection: Wear chemically resistant protective gloves complying with EN ISO 374 / ANSI/ISEA 105. Disposable nitrile gloves (minimum 0.11 mm thickness) are generally suitable for handling small quantities of the solid peptide and dilute aqueous solutions. Double-gloving is recommended when handling the neat powder or concentrated stock solutions. Inspect gloves before use, change immediately if contamination, degradation, or puncture is suspected, and remove using a technique that avoids skin contact. Wash hands thoroughly after glove removal. Glove manufacturer breakthrough data should be consulted for the specific solvent system in use, as no published permeation data are available for this peptide.

Eye / Face Protection: Wear tightly fitting safety glasses with side shields meeting ANSI/ISEA Z87.1 (or EN 166) as a minimum. Wear indirectly vented chemical splash goggles when there is a potential for splash, aerosol, or dust generation (e.g., during weighing, reconstitution, or transfer of solutions). A face shield (worn over goggles, not as a substitute) is recommended when handling larger volumes or where splash potential is significant. Emergency eyewash stations meeting ANSI Z358.1 must be immediately accessible.

Skin Protection: Wear a laboratory coat or chemical-resistant long-sleeved garment, full-length trousers, and closed-toe chemical-resistant footwear. For tasks with splash potential or when handling the dry powder, wear a chemically resistant disposable apron or coverall over the lab coat. Remove and replace contaminated clothing immediately; do not reuse until properly decontaminated or dispose of as contaminated waste. PPE selection should follow OSHA 29 CFR 1910.132 hazard assessment principles. Handle as a potentially bioactive substance of unknown toxicity and minimize skin contact at all times.

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; soluble in DMSO
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	1419.5 g/mol
Molecular Formula	C62H98N16O22

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 (e.g., peroxides, hypochlorites, permanganates, nitric acid, chromates), which can oxidize methionine, tryptophan, cysteine, and other susceptible residues and amide linkages in the peptide backbone. Avoid strong acids and strong bases, which can promote hydrolysis of peptide bonds and side-chain deamidation. Avoid strong reducing agents that may disrupt structure. Protect from moisture, elevated temperatures, direct sunlight, and ultraviolet light, all of which can accelerate hydrolytic and oxidative degradation. Avoid prolonged exposure to atmospheric oxygen and to trace transition-metal ions (e.g., Fe, Cu) that can catalyze oxidation. Hazardous decomposition products may include carbon oxides (CO, CO2) and nitrogen oxides (NOx) upon thermal decomposition, as is typical for nitrogen-containing organic compounds; refer to Section 10 for further stability and reactivity information.

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 of BPC-157 (CAS 137525-51-0) has not been fully characterized in published authoritative toxicology databases. No quantitative LD50/LC50 values for oral, dermal, or inhalation routes are available from OSHA, NIOSH, NTP, ECHA, or IARC. A 2025 peer-reviewed narrative review (PMC12446177) noted that the human toxicity profile remains unknown and that both the U.S. FDA and WADA have cited unknown human toxicity as a basis for restricting non-clinical use. Not classified for acute toxicity 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 avoid all routes of exposure.

Skin Corrosion / Irritation: No data from authoritative sources (OSHA, NIOSH, ECHA, NTP) regarding skin corrosion or irritation potential of BPC-157 are available, and the substance has not been evaluated in standardized OECD TG 404/431/439 assays in the published literature. Not classified for skin corrosion/irritation based on currently available data; hazards cannot be excluded (GHS Rev.8, S1.3.2.4). Treat as potentially irritating and avoid skin contact.

Serious Eye Damage / Irritation: No data from authoritative sources (OSHA, NIOSH, ECHA, NTP) regarding serious eye damage or eye irritation potential of BPC-157 are available, and the substance has not been evaluated in standardized OECD TG 405/437/492 assays in the published literature. Not classified for serious eye damage/eye irritation based on currently available data; hazards cannot be excluded (GHS Rev.8, S1.3.2.4). As a fine powder, mechanical irritation of the eye is plausible; avoid eye contact.

Skin / Respiratory Sensitization: No data from authoritative sources (OSHA, NIOSH, ECHA, NTP) regarding respiratory or skin sensitization (OECD TG 406/429/442) are available for BPC-157. The toxicological properties of this substance are not fully characterized. Not classified for respiratory or skin sensitization based on currently available data; hazards cannot be excluded (GHS Rev.8, S1.3.2.4). As with other complex synthetic substances containing

multiple amide linkages and free amino/carboxyl groups, sensitization potential cannot be ruled out; avoid repeated skin contact and inhalation.

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: BPC-157 (CAS 137525-51-0) is not listed by the U.S. National Toxicology Program (NTP Report on Carcinogens, 15th Edition), the International Agency for Research on Cancer (IARC Monographs), OSHA (29 CFR 1910.1003), or the U.S. EPA IRIS database as a carcinogen. No long-term carcinogenicity bioassays (e.g., OECD TG 451/453) have been published. The absence of listing reflects a lack of evaluation rather than evidence of no hazard. Not classified for carcinogenicity based on currently available data; hazards cannot be excluded (GHS Rev.8, S1.3.2.4).

Reproductive Toxicity: No data from authoritative sources (OSHA, NIOSH, ECHA, NTP, EPA) regarding reproductive or developmental toxicity of BPC-157 are available. No standardized reproductive toxicity studies (OECD TG 414, 416, 421, 422, 443) have been published in the peer-reviewed literature. A 2025 narrative review (PMC12446177) explicitly notes the absence of a characterized human toxicity profile. Not classified for reproductive toxicity based on currently available data; hazards cannot be excluded (GHS Rev.8, S1.3.2.4). As a precaution, exposure should be avoided by individuals who are pregnant, nursing, or planning pregnancy.

Specific Target Organ Toxicity (STOT): Specific Target Organ Toxicity - Single Exposure (STOT-SE) and Repeated Exposure (STOT-RE): No data from authoritative sources (OSHA, NIOSH, ECHA, NTP) characterizing target-organ effects of BPC-157 following single or repeated exposure are available, and no subacute (OECD TG 407), subchronic (OECD TG 408), or chronic (OECD TG 452) toxicity studies meeting GHS classification criteria have been published. The toxicological properties of this substance are not fully characterized. Not classified for STOT-SE or STOT-RE based on currently available data; hazards cannot be excluded (GHS Rev.8, S1.3.2.4). Minimize exposure by all routes 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 ecotoxicity data (e.g., fish LC50, Daphnia EC50, algal ErC50) were identified for BPC-157 (CAS 137525-51-0) in authoritative sources including ECHA, EPA ECOTOX, NIOSH, or PubChem (CID 9941957). The substance is not listed on the ECHA Candidate List or the EPA TSCA Inventory with ecotoxicological endpoints. Not classified as hazardous to the aquatic environment under GHS/CLP based on a weight-of-evidence assessment, as no authoritative experimental aquatic toxicity data have been identified. Avoid release to surface water, soil, drains, or sewers.

Persistence and Degradability: No substance-specific experimental data on persistence or biodegradability (e.g., OECD 301-series ready biodegradability testing) were identified for BPC-157 in authoritative sources (ECHA, EPA, PubChem). A definitive determination of environmental persistence cannot be made from the information currently available.

Bioaccumulative Potential: No substance-specific experimental bioaccumulation data (measured BCF or log Kow) were identified for BPC-157 in authoritative sources (ECHA, EPA, PubChem CID 9941957). Given the high molecular weight (1419.5 g/mol) and the multiple ionizable and hydrogen-bonding functional groups indicated by the molecular

formula C62H98N16O22, significant bioaccumulation in aquatic organisms is not anticipated; however, this is a qualitative assessment only and is not a substitute for experimental BCF 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	d6db40c2-c6bf-4a95-961c-1c93dbcfaf12
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).