



SAFETY DATA SHEET

GHS / OSHA HazCom 2012 Compliant

Minuteman Peptides, LLC

BPC-157

CAS: 216441-37-1

Formula: C₆₄H₁₀₂N₁₆O₂₄

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Version: 1.0

Section 1 — Product and Company Identification

Product Name	BPC-157
Synonyms	BPC-157 acetate; PAR2FC72XP; 216441-37-1
CAS Number	216441-37-1
Molecular Formula	C ₆₄ H ₁₀₂ N ₁₆ O ₂₄
IUPAC Name	acetic acid; (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	Minuteman Peptides, LLC
Address	53 Knox Trail, Suite 200, Acton, MA 01720, US
Phone	978-596-1533
Website	https://minutemanpeptides.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
BPC-157	216441-37-1	C64H102N16O24	1479.6 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 area, preferably within a chemical fume hood or laminar-flow enclosure, in accordance with OSHA HazCom 2012 (29 CFR 1910.1200) and general laboratory practice for research chemicals of undefined toxicological profile. Treat BPC-157 acetate as a potentially bioactive substance of unknown toxicity: avoid all routes of exposure including inhalation of dust or aerosols, skin and eye contact, and accidental ingestion. Use engineering controls (fume hood, weighing enclosure) when handling the dry powder, since fine lyophilized peptide can become airborne and generate respirable particulate. Wear appropriate personal protective equipment as specified in Section 8, including chemical-resistant gloves, safety goggles, and a laboratory coat; use an N95 or higher respirator if dusting cannot be controlled by engineering means. Do not eat, drink, smoke, or apply cosmetics in areas where the material

is handled (29 CFR 1910.141). Wash hands and exposed skin thoroughly with soap and water after handling and before breaks. Minimize generation of dust; avoid vigorous agitation of open containers. Ground and bond containers when transferring, and use anti-static tools where practical. Allow refrigerated or frozen containers to warm to room temperature in a desiccator before opening to prevent condensation of atmospheric moisture onto the hygroscopic peptide. Reconstitute and dilute only in a biosafety cabinet or fume hood using sterile technique. Manage all waste as potentially hazardous chemical/biological research waste in accordance with 40 CFR 262 (EPA RCRA) and applicable state/local regulations.

Storage Conditions

Store the lyophilized solid tightly closed in the original container, protected from light, moisture, and oxygen. Recommended long-term storage of the dry peptide is at -20 °degC or colder in a dedicated, non-frost-free freezer; storage under inert gas (nitrogen or argon) or with desiccant is preferred to limit hydrolytic and oxidative degradation, consistent with general guidance for lyophilized peptides (see PubChem CID for CAS 216441-37-1 and published peptide-handling literature). Keep containers sealed and desiccated; equilibrate to ambient temperature before opening to prevent moisture uptake by this hygroscopic acetate salt. Avoid repeated freeze/thaw cycles of reconstituted solutions; prepare single-use aliquots and store frozen. Store away from heat sources, direct sunlight, ignition sources, strong oxidizers, strong acids, and strong bases. Segregate from foodstuffs and incompatible chemicals. Storage areas should be cool, dry, well-ventilated, and equipped with secondary containment; access should be restricted to trained personnel. Refer to Section 10 for any specific stability data; no manufacturer-verified shelf-life value is asserted here.

Incompatibilities

As a peptide acetate salt containing multiple amide bonds, carboxyl, amine, hydroxyl, and guanidinium/indole-type functional groups, BPC-157 acetate is expected to be incompatible with strong oxidizing agents (e.g., peroxides, hypochlorites, permanganates, nitric acid, chromates), strong reducing agents, and strong acids or bases, all of which can promote hydrolysis, oxidation, deamidation, or racemization of the peptide backbone and side chains. Avoid contact with electrophilic reagents (aldehydes, acyl halides, isocyanates, activated esters) that can covalently modify lysine, N-terminal amine, or other nucleophilic residues. Elevated temperatures, ultraviolet or visible light, and humid air also degrade the material and should be excluded. Incompatible container materials include reactive metals and uncoated aluminum in the presence of the acetate counter-ion and moisture; use borosilicate glass or inert polymer (polypropylene, polyethylene) containers. Hazardous decomposition products on strong heating or combustion may include carbon monoxide, carbon dioxide, and nitrogen oxides (NO_x), consistent with general combustion behavior of nitrogen-containing organics (see NIOSH Pocket Guide general guidance for organic amides/peptides).

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 (a synthetic 15-amino-acid peptide acetate salt, CAS 216441-37-1).

Engineering Controls

Handle only in a well-ventilated area. Use local exhaust ventilation such as a certified chemical fume hood, a Class I/II ventilated balance safety enclosure, or a HEPA-filtered powder-weighing/containment hood when weighing, transferring, or otherwise generating dusts, aerosols, or mists of the solid peptide. For solution handling, work within a biosafety cabinet or fume hood. Provide readily accessible emergency eyewash and safety shower in the work area, in accordance with ANSI/ISEA Z358.1. Design work practices to prevent skin contact and inhalation of airborne particulates. Maintain good industrial hygiene practices: no eating, drinking, smoking, or storage of food in areas

where this substance is handled; wash hands and exposed skin thoroughly after handling and before breaks (29 CFR 1910.141).

Personal Protective Equipment

Respiratory Protection: Respiratory protection is not normally required when the material is handled within a properly functioning fume hood or containment enclosure. If engineering controls are insufficient to prevent airborne exposure (e.g., open handling of dry powder, aerosol-generating operations), use a NIOSH-approved air-purifying respirator equipped with N100/P100 particulate filters, or a powered air-purifying respirator (PAPR) with HEPA filters, selected and used in accordance with the OSHA Respiratory Protection Standard (29 CFR 1910.134). Respirator selection must be based on a workplace hazard assessment; users must be medically cleared, fit-tested (for tight-fitting facepieces), and trained.

Hand Protection: Wear chemically resistant, disposable gloves that meet EN 374 / ASTM D6978 (where applicable for cytotoxic/pharmaceutical drug permeation testing). Nitrile gloves of at least 4-8 mil (0.10-0.20 mm) thickness are generally suitable for incidental contact with the solid and aqueous solutions. Double-gloving is recommended when handling the neat powder or concentrated solutions. Inspect gloves before use, change immediately if contamination, tearing, or degradation is suspected, and again after each task. Remove gloves without touching the outer surface and wash hands thoroughly afterward. Glove selection should be verified against the specific solvents in use (e.g., DMSO, ethanol, aqueous buffers).

Eye / Face Protection: Wear tightly fitting safety glasses with side shields meeting ANSI/ISEA Z87.1 at a minimum. For operations with a splash potential (transferring solutions, sonication, pipetting under pressure) or when handling significant quantities of dry powder, wear indirectly vented chemical splash goggles meeting ANSI/ISEA Z87.1 D3. A full-face shield worn over goggles is recommended when there is a risk of splashing to the face. Do not wear contact lenses when handling this material unless additional eye protection is worn.

Skin Protection: Wear a long-sleeved laboratory coat or chemical-resistant gown fastened at the wrists and neck, closed-toe chemical-resistant footwear, and full-length trousers to prevent skin contact. For operations with elevated exposure potential (bulk powder handling, large-volume solution preparation), wear a disposable chemical-protective coverall (e.g., Type 5/6 to EN 13034/EN ISO 13982-1) and disposable sleeve covers. Remove and containerize contaminated clothing promptly; do not launder contaminated garments with general clothing. Wash exposed skin with soap and water immediately after any potential contact and before leaving the 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 K_{ow})	No experimental data available.
Solubility	Soluble in water, soluble in aqueous buffers
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	1479.6 g/mol
Molecular Formula	C ₆₄ H ₁₀₂ N ₁₆ O ₂₄

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: As a peptide acetate salt containing multiple amide bonds, carboxyl, amine, hydroxyl, and guanidinium/indole-type functional groups, BPC-157 acetate is expected to be incompatible with strong oxidizing agents (e.g., peroxides, hypochlorites, permanganates, nitric acid, chromates), strong reducing agents, and strong acids or bases, all of which can promote hydrolysis, oxidation, deamidation, or racemization of the peptide backbone and side chains. Avoid contact with electrophilic reagents (aldehydes, acyl halides, isocyanates, activated esters) that can covalently modify lysine, N-terminal amine, or other nucleophilic residues. Elevated temperatures, ultraviolet or visible light, and humid air also degrade the material and should be excluded. Incompatible container materials include reactive metals and uncoated aluminum in the presence of the acetate counter-ion and moisture; use borosilicate glass or inert polymer (polypropylene, polyethylene) containers. Hazardous decomposition products on strong heating or combustion may include carbon monoxide, carbon dioxide, and nitrogen oxides (NO_x), consistent with general combustion behavior of nitrogen-containing organics (see NIOSH Pocket Guide general guidance for organic amides/peptides).

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 for BPC-157 acetate (CAS 216441-37-1) are limited and the toxicological profile is not fully characterized. No LD₅₀ or LC₅₀ values from authoritative regulatory sources (ECHA, NIOSH, CDC, NTP) have been located for this substance by any exposure route (oral, dermal, or inhalation). A published human study (Lee et al., 'Safety of Intravenous Infusion of BPC157 in Humans,' PubMed PMID 40131143) reported no serious acute adverse events in a small cohort under controlled clinical conditions; however, this does not constitute a full acute toxicity dataset under GHS Rev.8. In November 2023, the U.S. FDA identified BPC-157 as a substance raising significant safety concerns (including potential immunogenicity) when compounded from bulk drug substances, citing insufficient safety characterization. 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.

Skin Corrosion / Irritation: 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.

Serious Eye Damage / Irritation: 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.

Skin / Respiratory Sensitization: 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.

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: 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.

Reproductive Toxicity: 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.

Specific Target Organ Toxicity (STOT): 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.

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 ecotoxicological data (e.g., fish LC50, Daphnia EC50, algal ErC50) have been identified for BPC-157 (CAS 216441-37-1) in authoritative sources including PubChem (CID 155977614), the U.S. EPA ECOTOX database, or the ECHA CHEM database. Not classified as hazardous to the aquatic environment (acute or chronic) under GHS Rev.8 / OSHA HazCom 2012 (29 CFR 1910.1200 Appendix A.9 and A.10) based on a weight-of-evidence assessment in the absence of authoritative experimental data. As a high-molecular-weight (1479.6 g/mol) pentadecapeptide acetate salt, the substance is expected to have very low volatility from aqueous solution and to be handled in small (research) quantities; nevertheless, releases to surface water, sewers, soil, or drains should be avoided as a precaution.

Persistence and Degradability: No substance-specific experimental biodegradation studies (e.g., OECD 301 series ready biodegradability tests) have been identified for BPC-157 in PubChem, ECHA CHEM, or peer-reviewed literature. The compound is a synthetic pentadecapeptide (amino-acid residues only; molecular formula C₆₄H₁₀₂N₁₆O₂₄ contains no halogen, sulfur, phosphorus, or other recalcitrant heteroatoms) and, based on its peptide bond structure, would be expected to undergo enzymatic and microbial hydrolysis in environmental compartments; however, this expectation has not been experimentally confirmed for this specific substance and should not be relied upon for regulatory classification.

Bioaccumulative Potential: No experimentally determined bioconcentration factor (BCF), bioaccumulation factor (BAF), or n-octanol/water partition coefficient (log Kow) for BPC-157 has been identified in authoritative sources (PubChem CID 155977614, ECHA CHEM, U.S. EPA CompTox Chemistry Dashboard). Given the high molecular weight (1479.6 g/mol, well above the ~700 g/mol threshold in ECHA REACH Guidance R.11 above which uptake across biological membranes is expected to be limited), the multiple ionizable groups, and the polar peptide backbone, significant bioaccumulation in aquatic organisms is not expected; this is a qualitative structure-based inference and not a substitute for 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	f99c2ee9-d083-4c63-94e3-ec6528a5f3a0
Revision Date	2026-07-18
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: 2026-07-18
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).