Minuteman Peptides, LLC

Orforglipron

CAS: 2212020-52-3
Formula: C48H48F2N10O5

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Version: 1.0

Section 1 — Product and Company Identification

Product Name	Orforglipron
Synonyms	Orforglipron; 2212020-52-3; LY3502970
CAS Number	2212020-52-3
Molecular Formula	C48H48F2N10O5
IUPAC Name	3-[(1S,2S)-1-[5-[(4S)-2,2-dimethyloxan-4-yl]-2-[(4S)-2-(4-fluoro-3,5-dimethylphenyl)-3-[3-(4-fluoro-1-methylindazol-5-yl)-2-oxoimidazol-1-yl]-4-methyl-6,7-dihydro-4H-pyrazolo[4,3-c]pyridine-5-carbonyl]indol-1-yl]-2-methylcyclopropyl]-4H-1,2,4-oxadiazol-5-one
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

Classified under GHS Rev.8 / OSHA HazCom 2012 — see hazard statements below.

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: *Not determined*

GHS Pictograms:

None required based on classification.

Hazard Statements

- Not Classified
- Reported as not meeting GHS hazard criteria by 1 of 1 companies. For more detailed information, please visit ECHA C&L website.

Precautionary Statements

Refer to standard laboratory handling precautions for unclassified research chemicals. Follow the PPE and engineering controls specified in Section 8.

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
Orforglipron	2212020-52-3	C48H48F2N10O5	883 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 properly ventilated area, preferably within a chemical fume hood or local exhaust ventilation, and follow the protective laboratory practices recommended in OSHA 29 CFR 1910.1450 (Laboratory Standard) and Appendix A (NRC 'Prudent Practices in the Laboratory'). In accordance with OSHA 1910.1450 App A guidance, treat this substance as having unknown toxicity and assume it is toxic until further hazard information becomes available. Avoid formation and inhalation of dusts, aerosols, mists, or vapors; do not pipette by mouth. Wear appropriate personal protective equipment as specified in Section 8, including chemical-resistant gloves, safety eyewear meeting ANSI Z87.1, and a laboratory coat; use a NIOSH-approved particulate respirator if engineering controls are insufficient to control airborne particulates during weighing or transfer. Prevent skin and eye contact, and avoid ingestion. Wash hands, forearms, and face thoroughly with soap and water after handling and before eating, drinking, smoking, or leaving the work area. Do not eat, drink, smoke, or apply cosmetics in areas where this material is handled. Keep containers tightly closed when not in use and minimize generation of airborne particulates by working with solutions where feasible. Ground and bond containers when transferring to prevent static accumulation if dissolving in flammable organic solvents. Decontaminate work surfaces and reusable equipment after use, and manage all waste in accordance with 40 CFR (RCRA) and applicable state/local regulations.

Storage Conditions

Store in the original tightly closed container, protected from light, moisture, and incompatible materials. Keep the container sealed under an inert atmosphere (e.g., nitrogen or argon) where practical to limit exposure to moisture and atmospheric oxygen. For long-term storage of the neat solid, refrigeration or freezer storage (typically -20 degC or colder) in a desiccated environment is consistent with general practice for bioactive small-molecule research chemicals; confirm specific long-term stability with the certificate of analysis. Stock solutions should be aliquoted to minimize freeze-thaw cycles. Store separately from strong oxidizers, strong acids, and strong bases. Storage areas should be cool, dry, well-ventilated, and equipped with secondary containment; restrict access to trained personnel. Label containers in accordance with OSHA HazCom 2012 (29 CFR 1910.1200(f)) and ensure storage is compatible with any local fire-code requirements for the solvent used if maintained in solution. Do not return unused material to the original container.

Incompatibilities

Specific incompatibility data for orforglipron (CAS 2212020-52-3) are not established in authoritative regulatory databases (OSHA, NIOSH, EPA, ECHA, PubChem). As a general precaution for an organic compound containing fluoroaryl, indazole, imidazolone, pyrazolopyridine, and 1,2,4-oxadiazol-5(4H)-one functionalities, avoid contact with strong oxidizing agents, strong acids, strong bases, and strong reducing agents, which may promote decomposition. Protect from heat, open flames, ignition sources, and incompatible materials. Hazardous decomposition products on combustion or strong thermal exposure may include carbon monoxide, carbon dioxide, nitrogen oxides (NOx), and hydrogen fluoride (HF) or other fluorinated decomposition products due to the fluorine and nitrogen content of the molecule. Avoid prolonged exposure to moisture and direct sunlight.

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. Orforglipron (CAS 2212020-52-3) is an investigational non-peptide active pharmaceutical ingredient (API); handle as a potentially bioactive substance of unknown toxicity.

Engineering Controls

Use in a well-ventilated area. Handle weighing, transfer, and open manipulations inside a certified ventilated enclosure such as a chemical fume hood, ventilated weighing/balance enclosure, or containment isolator (e.g., glovebox) appropriate for handling potent active pharmaceutical ingredients. Where dust or aerosols may be generated, use local exhaust ventilation with HEPA filtration in accordance with ANSI/AIHA Z9.5 laboratory ventilation guidance and the principles of OSHA's Laboratory Standard (29 CFR 1910.1450). Provide eyewash stations and emergency showers in the immediate work area (ANSI Z358.1). Minimize quantities handled, segregate the work area, and follow the hierarchy of controls described in NIOSH Publication 2004-165 (Preventing Occupational Exposures to Antineoplastic and Other Hazardous Drugs) as a model for handling potent pharmaceutical compounds. Prohibit eating, drinking, and storage of food in work areas.

Personal Protective Equipment

Respiratory Protection: Respiratory protection is not normally required when handling is confined to a properly functioning fume hood or containment isolator. If airborne dust, mist, or aerosol may be generated outside engineering controls, use a NIOSH-approved (42 CFR Part 84) particulate respirator - at minimum an N95 filtering facepiece; for tasks with higher exposure potential use an elastomeric half-mask or full-facepiece respirator equipped with P100 (HEPA) cartridges, or a powered air-purifying respirator (PAPR) with HEPA filters. Respirator use must follow a written respiratory protection program meeting OSHA 29 CFR 1910.134, including fit testing, medical clearance, and training.

Hand Protection: Wear chemically resistant, disposable gloves meeting EN ISO 374-1 / ASTM D6978 (the standard test for permeation by chemotherapy drugs, used as a reference for handling potent APIs). Nitrile gloves of at least 4-8 mil (0.10-0.20 mm) thickness are recommended; double-gloving is advised when handling neat powder or concentrated solutions. Inspect gloves before use, change immediately if contamination, degradation, or puncture is suspected, and at minimum every 30 minutes during continuous use, and wash hands thoroughly with soap and water after removal. Glove selection should be verified against the specific solvent system in use.

Eye / Face Protection: Wear tightly-fitting safety glasses with side shields meeting ANSI/ISEA Z87.1 (US) or EN 166 (EU) as a minimum. For operations with splash potential (handling solutions, liquid transfer, dissolution), wear chemical splash goggles. A full face shield worn over goggles is recommended when there is potential for splashes, sprays, or generation of airborne particulates outside primary containment.

Skin Protection: Wear a laboratory coat or chemical-resistant gown with long sleeves and closed cuffs (a disposable, low-linting, fluid-resistant gown is preferred for handling neat powder). Wear full-length pants and closed-toe, chemically resistant footwear; use disposable shoe/boot covers when handling powders. Remove and segregate contaminated clothing for laundering or disposal as hazardous waste; do not take contaminated PPE outside the controlled work area. Where dermal contact with powder or solution is possible, supplement with disposable sleeves and an impervious apron. Follow good occupational hygiene practice consistent with NIOSH Publication 2004-165 and OSHA 29 CFR 1910.1450.

Section 9 — Physical and Chemical Properties

Physical State	Solid (research-grade lyophilised powder or crystalline solid)
Appearance	White to off-white solid
Odor	Not available.
Odor Threshold	Not available.
Boiling Point	*Not determined*
Melting Point	*Not determined*
Flash Point	*Not determined*
Auto-ignition Temperature	No data available.
Decomposition Temperature	No experimental data available.
Vapor Pressure	*Not determined*
Vapor Density	*Not determined*
Specific Gravity	*Not determined*
Partition Coefficient (log Kow)	No experimental data available.
Solubility	Soluble in DMSO; poorly 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	883 g/mol
Molecular Formula	C48H48F2N10O5

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: Specific incompatibility data for orforglipron (CAS 2212020-52-3) are not established in authoritative regulatory databases (OSHA, NIOSH, EPA, ECHA, PubChem). As a general precaution for an organic compound containing fluoroaryl, indazole, imidazolone, pyrazolopyridine, and 1,2,4-oxadiazol-5(4H)-one functionalities, avoid contact with strong oxidizing agents, strong acids, strong bases, and strong reducing agents, which may promote decomposition. Protect from heat, open flames, ignition sources, and incompatible materials. Hazardous decomposition products on combustion or strong thermal exposure may include carbon monoxide, carbon dioxide, nitrogen oxides (NOx), and hydrogen fluoride (HF) or other fluorinated decomposition products due to the fluorine and nitrogen content of the molecule. Avoid prolonged exposure to moisture and direct sunlight.

Hazardous Decomposition Products: Upon combustion or decomposition may produce: carbon monoxide (CO), carbon dioxide (CO_2), nitrogen oxides (NOx), hydrogen fluoride (HF).

Hazardous Polymerization: Will not occur.

Section 11 — Toxicological Information

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

Acute Toxicity: No acute toxicity values (oral, dermal, or inhalation LD50/LC50) for orforglipron (CAS 2212020-52-3) have been identified in authoritative sources such as ECHA, NIOSH, NTP, or peer-reviewed literature. The acute toxicological profile of this substance is not fully characterized. 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 potentially hazardous active pharmaceutical ingredient and avoid all routes of exposure (inhalation of dust, ingestion, and skin/eye contact).

Skin Corrosion / Irritation: No standardized in vitro (OECD TG 431/439) or in vivo (OECD TG 404) skin corrosion/irritation study results for orforglipron have been located in authoritative public sources (ECHA, PubChem, peer-reviewed literature). The dermal irritation potential is not fully characterized. Not classified based on currently available data; hazards cannot be excluded (GHS Rev.8, Chapter 1.3.2.4). Avoid skin contact and use appropriate personal protective equipment.

Serious Eye Damage / Irritation: No standardized eye irritation/serious eye damage study data (OECD TG 405, 437, 438, 491, or 492) for orforglipron have been identified in authoritative public databases or peer-reviewed literature. The ocular irritation potential is not fully characterized. Not classified based on currently available data; hazards cannot be excluded (GHS Rev.8, Chapter 1.3.2.4). Prevent eye contact with dust, mist, or solutions.

Skin / Respiratory Sensitization: No data from standardized skin sensitization assays (e.g., OECD TG 429 LLNA, TG 442A-C, or human repeat insult patch testing) or respiratory sensitization studies for orforglipron have been located in ECHA, NIOSH, or peer-reviewed literature. Sensitization potential is not fully characterized. Not classified for skin or respiratory 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: Orforglipron (CAS 2212020-52-3) is not listed as a carcinogen by IARC, the U.S. National Toxicology Program (NTP Report on Carcinogens), OSHA (29 CFR 1910.1003), or the U.S. EPA IRIS database. No public carcinogenicity bioassay data are available in authoritative sources, and the carcinogenic potential of this substance is not fully characterized. Not classified for carcinogenicity based on currently available data; hazards cannot be excluded (GHS Rev.8, Chapter 1.3.2.4).

Reproductive Toxicity: No reproductive or developmental toxicity studies for orforglipron (OECD TG 414, 416, 421, 422, or 443) have been identified in authoritative public sources such as ECHA or peer-reviewed literature in a form suitable for GHS classification. The reproductive/developmental toxicity profile is not fully characterized. Not classified

for reproductive toxicity based on currently available data; hazards cannot be excluded (GHS Rev.8, Chapter 1.3.2.4). As a precaution, pregnant or nursing workers should avoid occupational exposure.

Specific Target Organ Toxicity (STOT): No data from repeated-dose occupational exposure studies (OECD TG 407, 408, 410, 412, 413) or single-exposure toxicity studies sufficient to support GHS STOT-SE or STOT-RE classification of orforglipron have been identified in authoritative public sources (ECHA, NIOSH, peer-reviewed literature). Target-organ toxicity following single or repeated occupational exposure is not fully characterized. 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). Minimize all routes of occupational exposure as a precautionary measure.

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 or terrestrial toxicity data (e.g., fish LC50, Daphnia EC50, algal ErC50) have been identified for orforglipron (CAS 2212020-52-3) in authoritative sources including PubChem (CID 137319706), ECHA, EPA ECOTOX, or peer-reviewed literature. The substance is not listed on the ECHA C&L Inventory with a harmonized aquatic hazard classification. Not classified as hazardous to the aquatic environment (acute or chronic) based on weight-of-evidence assessment in the absence of authoritative experimental data. As a fluorinated pharmaceutical active ingredient containing two aromatic C-F bonds, releases to surface water, soil, or wastewater treatment systems should nevertheless be avoided as a precautionary measure.

Persistence and Degradability: No substance-specific ready-biodegradability test data (e.g., OECD 301 series) or hydrolysis/photolysis half-lives have been identified for orforglipron in authoritative sources. The molecule is a non-peptide small molecule (C48H48F2N10O5, MW 883.0) containing aromatic fluorine substituents, an indazole, a pyrazolopyridine, and a 1,2,4-oxadiazol-5-one heterocycle; structural features such as aryl C-F bonds are generally recalcitrant to microbial mineralization, so class-based assumptions of ready biodegradability (e.g., those applied to peptides) are not appropriate. No authoritative determination of environmental persistence (P/vP under PBT criteria) is available.

Bioaccumulative Potential: No measured bioconcentration factor (BCF), bioaccumulation factor (BAF), or experimental log Kow has been identified for orforglipron in authoritative sources (PubChem CID 137319706, ECHA, EPA). Given the high molecular weight (883.0 g/mol), which exceeds the 700 g/mol threshold above which membrane permeation and bioconcentration are typically reduced (ECHA Guidance R.11), significant bioaccumulation potential is not anticipated; however, no authoritative B/vB determination under PBT criteria has been made.

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

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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).