



SAFETY DATA SHEET

GHS Compliant — According to GHS Rev.9 / OSHA HazCom 2012

SDS No: MOTS-
C(MITOCHONDRIALOPENR
EADINGFRAMEOF THE12SR
RNA-C)-001
Rev: 1.1
Date: 2026-10-05

SECTION 1 — IDENTIFICATION

Product Name	MOTS-c (Mitochondrial Open Reading Frame of the 12S rRNA-c)
Synonyms / Common Name	Mitochondrial-derived peptide MOTS-c; mitochondrial ORF of the 12S rRNA type-c
CAS Number	1627580-64-6
Molecular Formula	C100H152N28O29S2
Molecular Weight	2174.5 g/mol
Product Grade	Research Grade — For Laboratory / Scientific Research Use Only
Quantity / Lot Size	5 mg, 10 mg, 20 mg or 40 mg per vial
Physical Form	White lyophilised powder
Purity	>=95% (HPLC); >=99% (MS)
Intended Use	In vitro / in vivo research only. NOT approved for human or veterinary use.
Supplier / Manufacturer	Essential Peptides Au (EPA) Melbourne VIC, Australia Email: support@essentialpeptidesau.com Web: essentialpeptidesau.com
Emergency Contact	Poisons Information Centre (Australia): 13 11 26, 24 hours. In an emergency, call 000.

SECTION 2 — HAZARD IDENTIFICATION

GHS Classification	Not classified as dangerous (GHS) - Irritant (Category 3)
Signal Word	WARNING
Hazard Statements	H302 – Harmful if swallowed (based on structural analogy). H315 – Causes skin irritation. H319 – Causes serious eye irritation. H335 – May cause respiratory irritation.
Precautionary Statements	P260 – Do not breathe dust/fumes. P264 – Wash hands thoroughly after handling. P270 – Do not eat, drink or smoke when using this product. P280 – Wear protective gloves/protective clothing/eye protection/face protection.
GHS Pictograms	Exclamation Mark (GHS07)
Other Hazards	No additional hazards known at research quantities. Peptide of synthetic origin; biological activity may occur at nanomolar concentrations.

SECTION 3 — COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS No.	Concentration	Classification
MOTS-c (Mitochondrial Open Reading Frame of the 12S rRNA-c)	1627580-64-6	>95% (HPLC)	Not classified as dangerous (GHS) - Irritant (Category 3)
Acetic Acid (trace — lyophilization residue)	64-19-7	< 1%	Corrosive (C)

SECTION 4 — FIRST AID MEASURES

Inhalation	Remove person to fresh air. Keep comfortable for breathing. Call a physician if symptoms persist.
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Skin Contact	Wash with soap and water for at least 15 minutes. Remove contaminated clothing. Seek medical attention if irritation develops.
Eye Contact	Rinse cautiously with water for at least 15 minutes. Remove contact lenses if present. Seek medical advice if irritation persists.
Ingestion	Rinse mouth. Do NOT induce vomiting. Seek medical attention immediately if large quantities are ingested.
Symptoms / Effects	No known acute effects at research quantities. Biological activity is possible due to peptide receptor interactions.
Medical Attention	Treat symptomatically. Show this SDS to medical personnel.

SECTION 5 — FIRE-FIGHTING MEASURES

Flammability	Not flammable. Peptide solid / lyophilized powder.
Extinguishing Media	Use media appropriate for surrounding fire. CO2, dry chemical, or water spray.
Special Fire Hazards	Thermal decomposition may produce nitrogen oxides (NOx) and CO2.
Protective Equipment	Self-contained breathing apparatus (SCBA) and full protective equipment for fire fighters.

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Personal Precautions	Wear appropriate PPE (gloves, lab coat, eye protection). Avoid dust generation.
Environmental Precautions	Prevent entry into drains, waterways, or soil. Product is present in minimal quantity (10 mg).
Containment	Sweep up carefully into a closed container. Avoid creating dust. Clean spill area with damp cloth.
Disposal	Dispose of in accordance with local, national, and international regulations. See Section 13.

SECTION 7 — HANDLING AND STORAGE

Handling Precautions	Use in well-ventilated laboratory. Avoid inhalation of dust. Minimise exposure. Use appropriate PPE. Handle with care — hygroscopic peptide material.
Storage Conditions	Store lyophilised at -20°C (-4°F), protected from light and moisture. Once reconstituted, store at 2–8°C and use within 28 days.
Storage Incompatibilities	Strong oxidising agents, strong acids, strong bases.
Shelf Life	24 months from date of manufacture when stored under recommended conditions.

SECTION 8 — EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational Exposure Limits	No established OELs. Apply precautionary measures.
Engineering Controls	Fume hood or biosafety cabinet recommended. General lab ventilation.
Respiratory Protection	N95 or P100 respirator if dust is generated.
Hand Protection	Nitrile or latex gloves (0.1 mm or greater).
Eye / Face Protection	Safety glasses or chemical splash goggles.
Body Protection	Lab coat or protective clothing.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Property	Value	Property	Value
Physical State	Lyophilised powder	Colour	White to off-white
Odour	Odourless	Molecular Weight	2174.5 g/mol

Solubility	Soluble in water, acetic acid (0.1%)	pH (1 mg/mL aq.)	4.0–6.0
Melting Point	>200°C (decomposes)	Flash Point	Not applicable
Vapour Pressure	Negligible	Partition Coeff.	Not determined

SECTION 10 — STABILITY AND REACTIVITY

Stability	Stable under recommended storage conditions.
Conditions to Avoid	Heat, moisture, UV light, freeze-thaw cycles (once reconstituted).
Incompatible Materials	Strong oxidising agents, strong acids and bases.
Hazardous Decomposition	CO ₂ , nitrogen oxides (NO _x), carbon monoxide (CO) upon combustion.
Hazardous Polymerisation	Will not occur.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute Toxicity — Oral	Not fully determined. Based on structural analogy: harmful if swallowed.
Acute Toxicity — Dermal	Not determined at this time.
Acute Toxicity — Inhalation	Not determined. Dust may cause irritation.
Skin / Eye Irritation	May cause mild irritation based on peptide class data.
Carcinogenicity	Not classified as carcinogenic (IARC, NTP, OSHA).
Reproductive / Dev. Toxicity	Unknown. Handle as potentially hazardous. Not for human use.
Target Organ Effects	Pancreas, gastrointestinal tract, hypothalamus (GLP-1/GIP/glucagon receptor activity)

SECTION 12 — ECOLOGICAL INFORMATION

Aquatic Toxicity	No data available. Exercise caution with environmental release.
Persistence / Degradability	Expected to be biodegradable (peptide bond hydrolysis).
Bioaccumulation	Unlikely due to hydrophilic nature and rapid metabolic degradation.
Mobility in Soil	Limited data. Small quantities (10 mg) present minimal environmental risk.

SECTION 13 — DISPOSAL CONSIDERATIONS

Waste Disposal	Dispose of in accordance with local, regional, and international regulations. Consult local waste disposal authority.
Container Disposal	Empty containers should be disposed of as chemical waste. Do not reuse.
UN Waste Code	Not listed as hazardous waste — verify with local authority.

SECTION 14 — TRANSPORT INFORMATION

UN Number	Not assigned
UN Proper Shipping Name	Not regulated as dangerous goods (research peptide, non-hazardous quantity)
Transport Hazard Class	Not regulated
Packing Group	N/A
IATA Classification (Air)	Not regulated as dangerous goods per IATA Dangerous Goods Regulations (DGR), 65th Edition. Research quantity of lyophilised powder in a sealed vial; not subject to IATA DGR packing instructions.
ICAO Classification (Air)	Not regulated as dangerous goods per ICAO Technical Instructions for the Safe Transport of Dangerous Goods by Air (Doc 9284), 2025–2026 Edition. Exempt from ICAO TI at this quantity and form.

IMDG Classification (Sea)	Not regulated as dangerous goods per IMDG Code, Amendment 41-22.
ADR/RID Classification (Road/Rail)	Not regulated per ADR 2023 / RID 2023.
Special Precautions (Air)	Package in compliance with IATA DGR Packing Instruction 650 for biological substances if applicable. Protect from heat and moisture. Cold chain recommended (gel pack). Label outer packaging with product name and quantity.
Environmental Hazard	Not classified as Marine Pollutant per IMDG Code.

SECTION 15 — REGULATORY INFORMATION

EU Regulation	Not listed on Annex I of Directive 67/548/EEC. Complies with GHS/CLP Regulation (EC) No 1272/2008.
US Regulations	Not listed on SARA 302, SARA 311/312, SARA 313, CERCLA, or TSCA inventory (research use exemption).
Australia (AICIS)	Exempt from AICIS notification at research quantities under 100 mg.
WADA Status	Verify the current WADA Prohibited List for this substance before use in any context subject to anti-doping rules.
Customs / Import Notes	Product is a synthetic research peptide. Not a controlled substance under UN drug conventions.

SECTION 16 — OTHER INFORMATION

Preparation Date	2026-10-05
Revision Number	1.1
Prepared By	Regulatory / Quality Affairs Department
Information Sources	PubChem, DrugBank, GHS SDS Guidelines Rev.9, IATA DGR 65th Edition, ICAO Technical Instructions Doc 9284 (2025–2026), OSHA HazCom 2012
Disclaimer	Information is believed accurate as of revision date. Not a guarantee of safety. User is responsible for compliance with applicable laws and regulations. This product is for research use only.

— End of Safety Data Sheet —