Safety Data Sheet (SDS): NAD+

For Research Use Only. Not for human or animal consumption.

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Product identifier	NAD+
CAS number	53-84-9
Molecular formula	C21H27N7O14P2
Molecular weight	663.43 g/mol
Synonyms	beta-Nicotinamide adenine dinucleotide, oxidized form
Recommended use	Laboratory research reagent only. Not for diagnostic, therapeutic, veterinary, food, cosmetic, household, agricultural, or consumer use.

1. Identification

Supplier/Responsible party: Biotech Labz Supply. **Product:** NAD+. **Use:** For Research Use Only. Not for human or animal consumption. This SDS is prepared for neat lyophilized research material; lot-specific salts, hydrates, counterions, and excipients must be verified against the COA.

2. Hazard(s) Identification

GHS classification: Not fully classified due to limited available toxicological data for research material. Treat as a substance of unknown toxicity. Avoid inhalation, ingestion, skin contact, eye contact, and exposure to dust or aerosols. Signal word: Warning. Precautionary statements: wear gloves, protective clothing, and eye/face protection; use adequate ventilation; wash thoroughly after handling.

3. Composition/Information on Ingredients

Substance/mixture: Research peptide or biochemical reagent, generally supplied as lyophilized solid. Component: NAD+; CAS: 53-84-9; purity and salt form: see lot-specific COA. No intentional ingredients for human or animal administration are specified by this SDS.

4. First-Aid Measures

Inhalation: move person to fresh air and seek medical attention if symptoms occur. Skin: remove contaminated clothing and wash with soap and water. Eyes: rinse cautiously with water for at least 15 minutes. Ingestion: rinse mouth; do not induce vomiting unless directed by medical personnel; seek medical advice. Provide SDS to medical personnel.

5. Fire-Fighting Measures

Suitable extinguishing media: water spray, alcohol-resistant foam, dry chemical, or carbon dioxide. Specific hazards: thermal decomposition may produce carbon oxides, nitrogen oxides, sulfur oxides where applicable, phosphorus oxides where applicable, copper oxides for copper complexes, and irritating fumes. Firefighters should wear self-contained breathing apparatus.

6. Accidental Release Measures

Personal precautions: avoid dust formation and avoid breathing dust. Wear suitable PPE. Environmental precautions: prevent release to drains, waterways, and soil. Cleanup: dampen carefully if needed, collect with non-sparking tools or HEPA vacuum, place in a labeled chemical waste container, and decontaminate area.

7. Handling and Storage

Handling: handle only by trained laboratory personnel using good laboratory practices. Avoid generating dust. Storage: Store at -20 C, tightly closed, desiccated and protected from light. Keep container tightly closed. Do not use after expiration or if material shows signs of contamination, discoloration, or compromised vial integrity.

8. Exposure Controls/Personal Protection

Occupational exposure limits: none established for this product. Engineering controls: chemical fume hood, balance enclosure, or local exhaust when weighing powder. PPE: lab coat, nitrile gloves, safety glasses or goggles; respiratory protection if dust exposure cannot be controlled.

9. Physical and Chemical Properties

Appearance: White to off-white crystalline or lyophilized powder. Odor: not available. pH: not available. Melting/decomposition point: not available. Boiling point: not applicable for lyophilized peptide solid. Solubility: Freely soluble in water; sensitive to pH, heat, and moisture. Stability: avoid heat, light, moisture, repeated freeze-thaw cycles, strong oxidizers, and strong acids/bases unless validated.

10. Stability and Reactivity

Reactivity: no dangerous reaction known under recommended storage and handling. Chemical stability: expected stable as dry lyophilized material under recommended storage. Conditions to avoid: heat, light, moisture, incompatible chemicals, contamination.

Incompatible materials: strong oxidizers, strong acids, strong bases.

11. Toxicological Information

Acute toxicity, irritation, sensitization, mutagenicity, carcinogenicity, reproductive toxicity, STOT, and aspiration hazard: not fully determined for research-grade material. Handle as potentially harmful. No route of human or animal exposure is intended or permitted.

12. Ecological Information

Ecotoxicity, persistence, degradability, bioaccumulation, and mobility in soil: data not available. Prevent release to the environment. Dispose as chemical laboratory waste according to applicable regulations.

13. Disposal Considerations

Dispose of unused product, contaminated packaging, and cleanup materials through an approved chemical waste program. Do not dispose to sink, drain, regular trash, or environment unless allowed by institutional and local regulations.

14. Transport Information

DOT/IMDG/IATA: not regulated as dangerous goods based on available information for small research quantities, unless combined with regulated solvents, dry ice, or other hazardous materials. Verify shipment classification by exact formulation, quantity, packaging, and destination.

15. Regulatory Information

This document is prepared for research-use laboratory material under OSHA Hazard Communication style formatting. Regulatory status may vary by jurisdiction, salt form, concentration, and intended use. User is responsible for compliance with federal, state, local, and institutional requirements.

16. Other Information

Data sources consulted include PubChem, Sigma-Aldrich/Merck, Cayman Chemical, Tocris/Bio-Techne, MedKoo, DrugBank, and lot-specific COA references where available. This SDS is provided in good faith for laboratory safety communication and does not replace supplier-specific regulatory SDS, COA, or institutional risk assessment.