

Nicotinamide Mononucleotide (NMN)

Catalog # NM01-C59

Lot # K4488-11

CAS 1094-61-7

Product Description

Molecular Formula: C₁₁H₁₅N₂O₈P

Molecular Weight: 334.22

Physical Appearance: White powder

pH of Solution: 3.0-4.0 (100mg/mL water)

Alternative name(s)

β-nicotinamide mononucleotide, β-NMN, β-NM, β-Nicotinamide ribose monophosphate, NMN, Nicotinamide ribotide, Nicotinamide-1-ium-1-β-D-ribofuranoside 5'-phosphate

Storage and Stability

Transport product sealed, dry, and protected from light at ambient temperature. Store product dry and protected from light. For long term storage keep between -25°C and -15°C.

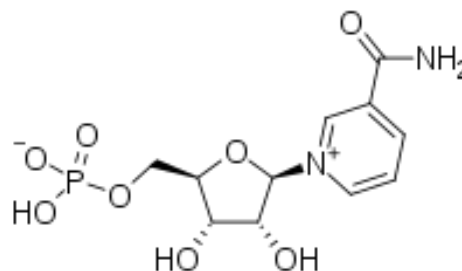
Scientific Background

Nicotinamide mononucleotide (NMN) is a ribonucleotide containing of the nitrogenous base nicotinamide, a ribose sugar, and a phosphate group (1). NMN is a direct precursor of the coenzyme nicotinamide adenine dinucleotide (NAD)(2). NMN biosynthesis pathways vary in eukaryotes and prokaryotes. NMN plays a role in cardiac and cerebral ischemia, Alzheimer's disease, diabetes, obesity, cancer and aging (3). Scientific applications of this product include pharmacological studies and RNA aptamer binding motif analysis.

References

1. National Center for Biotechnology Information (2022). PubChem Compound Summary for CID 14180, Nicotinamide mononucleotide. Retrieved October 18, 2022 from <https://pubchem.ncbi.nlm.nih.gov/compound/Nicotinamide-mononucleotide>.
2. Nakamura M, Bhatnagar A, Sadoshima J. Overview of pyridine nucleotides review series. *Circ Res.* 2012 Aug 17;111(5):604-10. doi: 10.1161/CIRCRESAHA.111.247924. PMID: 22904040; PMCID: PMC3523884.
3. Poddar SK, Sifat AE, Haque S, Nahid NA, Chowdhury S, Mehedi I. Nicotinamide Mononucleotide: Exploration of Diverse Therapeutic Applications of a Potential Molecule. *Biomolecules.* 2019 Jan 21;9(1):34. doi: 10.3390/biom9010034. PMID: 30669679; PMCID: PMC6359187..

Molecular Structure



Purity Analysis

| | |
|-----------------------------------|---------------------------|
| Purity: | 99.5% (HPLC) |
| Assay: | 98.0~102.0% (Titrimetric) |
| Sodium Content: | ≤0.05% |
| Potassium Content: | ≤0.05% |
| Water Content: | ≤0.5% |
| Pb: | ≤0.1ppm |
| As: | ≤0.1ppm |
| Hg: | ≤0.1ppm |
| Cd: | ≤0.1ppm |
| Total Microbial count: | ≤500 CFU/g |
| Coliform: | <3 MPN/g |
| Mold/ Yeast: | ≤25 CFU/g |
| Staphylococcus aureus: | Not Detected |
| Salmonella: | Not Detected |
| Diarrhea causing Echerichia coli: | Not Detected |
| Aflatoxins: | < 0.5 µg/Kg |
| Methanol: | ≤ 10 ppm |
| Ethanol: | < 0.5% |

Nicotinamide Mononucleotide (NMN)

| | |
|--------------------|---|
| Catalog # | NM01-C59 |
| Cas# | 1094-61-7 |
| Lot # | K4488-11 |
| Expiration Date | 2024-09-13 |
| Purity | 99.5% (HPLC) |
| Format | White powder |
| Stability | Two years |
| Storage & Shipping | Transport product sealed, dry, and protected from light at ambient temperature. Store product dry and protected from light. For long term storage keep between -25°C and -15°C. |

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SAFETY DATA SHEET

Article 1 - Product Identification

Product Name: Nicotinamide Mononucleotide (NMN)**Catalog # NM01-C59**

This product is sold only for research use by qualified laboratory personnel, and is not to be used as a drug, medical device, food additive, cosmetic, nor household chemical. It is not to be used in diagnostic, therapeutic, consumer, agricultural, nor pesticidal applications.

Supplier's Name: SignalChem Diagnostics Inc.
Street Address: 110-13120 Vanier Place
City, Prov. Postal Code: Richmond, BC, V6V 2J2
Country: Canada
Fax: 604-232-4601
EMERGENCY PHONE: 604-232-4600

Article 2 - Hazard Identification

Classification of Substance (GHS)

Not a hazardous substance or mixture.

Label Elements

Not a hazardous substance or mixture.

Other hazards: None

Article 3 - Composition/Information on Ingredients

Product Name(s): β -nicotinamide mononucleotide
 β -NMN
 β -NM
 β -Nicotinamide ribose monophosphate
NMN
Nicotinamide ribotide
Nicotinamide-1-ium-1- β -D-ribofuranoside 5'-phosphate

Chemical Name: β -nicotinamide mononucleotide

Molecular Formula: C₁₁H₁₅N₂O₈P

CAS Number: 1094-61-7

Concentration: 99.5%

Article 4 - First-aid Measures

- **General information:** Consult a physician and provide this SDS.
- **After inhalation:** Breathe in fresh air. If victim cannot breathe, give artificial respiration and consult a physician.
- **After skin contact:** Immediately wash with soap and plenty of water and rinse thoroughly. Consult a physician.
- **After eye contact:** Rinse opened eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do so. Consult a physician.
- **After swallowing:** Not expected to present a significant ingestion hazard under anticipated conditions of normal use. If you feel unwell, seek medical advice.

Article 5 - Fire-fighting Measures

- **Suitable extinguishing media:** Use water spray, extinguishing powder, carbon dioxide, or other appropriate measure that is suitable to the environment.
- **Specific hazards arising from the substance or mixture:**
Carbon oxides
Nitrogen oxides (NOx)
Oxides of phosphorus
- **Special protective equipment and precautions for fire-fighters:** Self-contained breathing apparatus if necessary.

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Article 6 – Accidental Release Measures

- **Personal precautions, protective equipment and emergency procedures:** Apply standard laboratory practices and personal protective equipment. Avoid breathing vapors, mist, dust, or gas. Ensure adequate ventilation.
- **Environmental precautions:** No special environmental precautions required.
- **Methods and materials for containment and cleaning up:** Sweep up and shovel. Keep in suitable, closed containers for disposal.

Article 7 - Handling and Storage

- **Precautions for safe handling:** Wear chemical safety goggles and compatible chemical-resistant gloves. Avoid inhalation, contact with eyes, skin or clothing.
- **Conditions for safe storage:** Keep container tightly closed in a dry and well-ventilated place. See product datasheet for recommended storage temperature

Article 8 - Exposure Controls/Personal Protection

- **Components with limit monitoring values at workplace:**
Contains no substances with occupational exposure limit values.
- **Appropriate engineering controls:**
Apply adequate ventilation including mechanical exhaust or laboratory fume hood. Follow standard laboratory practices.
- **Individual protection measures:**
Respiratory protection:
Use appropriate respirator if there is inadequate ventilation by following the government standards.
Hand protection:
In case of contact through splashing, wear nitrile rubber gloves with thickness >0.11mm and break through time > 480 min. In case of full contact, wear nitrile rubber gloves with thickness >0.11mm and break through time > 480 min. Use proper glove removal technique to avoid skin contact. Discard gloves after use by following the applicable laboratory regulations. Wash and dry hands.
Eye/face protection:
Safety goggles with side-shields approved under appropriate government standards.
Skin/body protection:
Use appropriate clothing, footwear and any additional protection measures to protect from splashing or contamination.

Article 9 – Physical and Chemical Properties

| | |
|---|---|
| Appearance: White powder | Danger of explosion: Product does not present an explosion hazard. |
| Odour/Odour Threshold: Not determined. | Explosion limits: Not available. |
| pH: Not available. | Decomposition temperature: Not available. |
| Melting point/freezing point: Not determined. | Vapor pressure at 20 °C: Not available. |
| Boiling point/Boiling range: Not determined. | Density: Not determined. |
| Flash point: Not determined. | Relative density: Not determined. |
| Flammability (solid, gaseous): Not determined. | Vapor density: Not determined. |
| Ignition temperature: Not determined. | Evaporation rate: Not determined. |
| Auto-igniting: Product is not self-igniting. | Solubility in / Miscibility with Water: Not determined. |

Article 10 - Stability and Reactivity

- **Reactivity:** No data available
- **Chemical stability:** Stable under recommended transport and storage conditions.
- **Possible hazardous reactions:** No data available
- **Conditions to avoid:** No data available
- **Incompatible materials:** Strong oxidizing agents
- **Hazardous decomposition products:** In the event of fire: see section 5

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Article 11 - Toxicological Information

- **Acute toxicity:** No data available.
- **LD/LC50:** No data available.
- **Skin corrosion/irritation:** No data available.
- **Serious eye damage/eye irritation:** No data available.
- **Respiratory or skin sensitization:** No data available.
- **Germ cell mutagenicity:** No data available.
- **Carcinogenicity:** No components are listed in ACGIH.
- **Reproductive toxicity:** No data available.
- **Teratogenicity:** No data available.
- **Specific target organ toxicity - single exposure/ - repeated exposure (GHS):** No data available.
- **Aspiration hazard:** No data available.
- **Potential health effects:**
 - Inhalation:** No data available.
 - Ingestion:** No data available
 - Skin:** No data available
 - Eyes:** No data available
- **Signs and Symptoms of Exposure:** No data available
- **Synergistic effects:** No data available.

Article 12 - Ecological Information

- **Eco-toxicity:** No data available.
- **Biodegradability:** No data available.
- **Bio-accumulative potential:** No data available.
- **Mobility in soil:** No data available.
- **PBT and vPvB assessment:** No data available.
- **Other adverse effects:** No data available.

Article 13 - Disposal Considerations

- **Disposal methods:** Dispose of in accordance with applicable national, regional, or local laws and regulations. For additional handling information and protection of employees please refer to Article 7 and 8.
- **Contaminated packaging:** Disposal should be made in accordance with official regulations. Use water or cleansing agents to clean the area.

Article 14 - Transport Information

- **DOT:** Not dangerous goods.
- **IMDG:** Not dangerous goods.
- **IATA:** Not dangerous goods.

Article 15 - Regulatory Information

- **WHMIS Classification:** Non-hazardous.
- **GHS label elements:** Not applicable.
- **Signal word:** Not applicable.
- **Hazard statements:** Not applicable.

Article 16 - Other Information

The above information is believed to be correct but does not purport to be all-inclusive and shall be used only as a guide. SignalChem shall not be held liable for any damage resulting from handling or from contact with the above product. See the Technical Specification, Packing Slip, Invoice, and Product Catalog for additional terms and conditions of sale.

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