

### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : **beta -Nicotinamide adenine dinucleotide**

Product Number : N8410  
Brand : Sigma-Aldrich

Company : Sigma-Aldrich  
3050 Spruce Street  
SAINT LOUIS MO 63103  
USA

Telephone : +1 800-325-5832  
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### 2. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : beta -DPN  
beta -NAD  
Coenzyme 1  
Cozymase  
DPN  
Diphosphopyridine nucleotide  
Nadide

Formula : C<sub>21</sub>H<sub>27</sub>N<sub>7</sub>O<sub>14</sub>P<sub>2</sub>  
Molecular Weight : 663.40 g/mol

| CAS-No.  | EC-No.    | Index-No. | Concentration [%] |
|--|-----------|-----------|-------------------|
| <b>beta-Nicotineamide adenine dinucleotide</b> |           |           |                   |
| 53-84-9  | 200-184-4 | -         | -                 |

### 3. HAZARDS IDENTIFICATION

**Emergency Overview**  
**OSHA Hazards**  
No OSHA Hazards

**HMS Classification**  
**Health Hazard:** 0  
**Flammability:** 0  
**Physical hazards:** 0

**NFPA Rating**  
**Health Hazard:** 0  
**Fire :** 0

**Reactivity Hazard:** 0

**Potential Health Effects**

|                   |   |
|-------------------|---|
| <b>Inhalation</b> | May be harmful if inhaled. May cause respiratory tract irritation.  |
| <b>Skin</b>       | May be harmful if absorbed through skin. May cause skin irritation. |
| <b>Eyes</b>       | May cause eye irritation.   |
| <b>Ingestion</b>  | May be harmful if swallowed.  |

**4. FIRST AID MEASURES**

**If inhaled**  
If breathed in, move person into fresh air. If not breathing give artificial respiration

**In case of skin contact**  
Wash off with soap and plenty of water.

**In case of eye contact**  
Flush eyes with water as a precaution.

**If swallowed**  
Never give anything by mouth to an unconscious person. Rinse mouth with water.

**5. FIRE-FIGHTING MEASURES**

**Flammable properties**  
Flash point                   no data available  
Ignition temperature   no data available

**Suitable extinguishing media**  
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Special protective equipment for fire-fighters**  
Wear self contained breathing apparatus for fire fighting if necessary.

**6. ACCIDENTAL RELEASE MEASURES**

**Personal precautions**  
Avoid dust formation.

**Environmental precautions**  
Do not let product enter drains.

**Methods for cleaning up**  
Sweep up and shovel. Keep in suitable, closed containers for disposal.

**7. HANDLING AND STORAGE**

**Handling**  
Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

**Storage**  
Keep container tightly closed in a dry and well-ventilated place.

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

Contains no substances with occupational exposure limit values.

**Personal protective equipment**

**Respiratory protection**  
Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Hand protection**

For prolonged or repeated contact use protective gloves.

**Eye protection**

Safety glasses

**Hygiene measures**

General industrial hygiene practice.

**9. PHYSICAL AND CHEMICAL PROPERTIES****Appearance**

Form powder

Colour white

**Safety data**

pH no data available

Melting point no data available

Boiling point no data available

Flash point no data available

Ignition temperature no data available

Lower explosion limit no data available

Upper explosion limit no data available

Water solubility no data available

**10. STABILITY AND REACTIVITY****Storage stability**

Stable under recommended storage conditions.

**Materials to avoid**

Strong oxidizing agents

**Hazardous decomposition products**

**Hazardous decomposition products formed under fire conditions.**

Carbon oxides, nitrogen oxides (NOx)

**11. TOXICOLOGICAL INFORMATION****Acute toxicity**

LD50 Intraperitoneal - mouse - 4,333 mg/kg

**Irritation and corrosion**

no data available

**Sensitisation**

no data available

**Chronic exposure**

no data available

**Signs and Symptoms of Exposure**

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

**Potential Health Effects**

|                   |   |
|-------------------|---|
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**12. ECOLOGICAL INFORMATION**

**Elimination information (persistence and degradability)**

no data available

**Ecotoxicity effects**

no data available

**Further information on ecology**

no data available

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**13. DISPOSAL CONSIDERATIONS**

**Product**

Observe all federal, state, and local environmental regulations.

**Contaminated packaging**

Dispose of as unused product.

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**14. TRANSPORT INFORMATION**

**DOT (US)**

Not dangerous goods

**IMDG**

Not dangerous goods

**IATA**

Not dangerous goods

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**15. REGULATORY INFORMATION**

**OSHA Hazards**

No OSHA Hazards

**TSCA Status**

On TSCA Inventory

**DSL Status**

All components of this product are on the Canadian DSL list.

**SARA 302 Components**

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components**

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**SARA 311/312 Hazards**

No SARA Hazards

**Massachusetts Right To Know Components**

No Components Listed

**Pennsylvania Right To Know Components**

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Revision Date

**New Jersey Right To Know Components**

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CAS-No.  
53-84-9

Revision Date

**California Prop. 65 Components**

This product does not contain any chemicals known to State of California to cause cancer, birth, or any other reproductive defects.

**16. OTHER INFORMATION**

**Further information**

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