

Safety Data Sheet


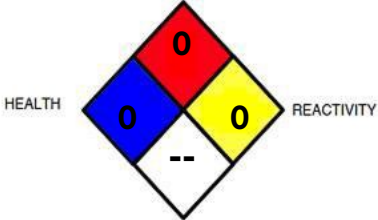
Section 1: Product & Company Identification

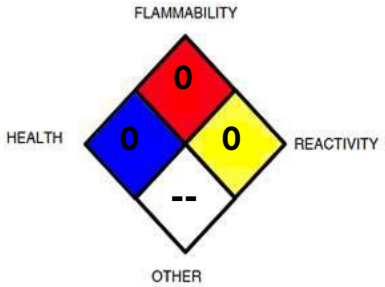
Product Name:	Diaphorase (NADH)
Product #:	N-1182
Synonyms:	-
Supplier:	AG Scientific Holdings, LLC 9950 Scripps Lake Drive, Suite 104 San Diego CA 92131 Tele# + 858-452-9925
Emergency Tele#:	ChemTel, Tele# in USA 1-800-255-3924, International 1-813-248-0585

Section 2: Composition / Information on Ingredients

Component	CAS#	EC #	% Composition
Enzyme protein	9032-20-6	-	70-100
Tris(hydroxymethyl) aminomethane	77-86-1	201-064-4	0.4 - 4.0
Flavin adenine dinucleotide sodium	84366-81-4	282-733-8	0.1 - 1.0

Section 3: Hazards Identification

Symbols	
HMIS Classification	<p style="text-align: center;">FLAMMABILITY</p>  <p style="text-align: center;">HEALTH REACTIVITY</p> <p style="text-align: center;">OTHER</p>

NFPA Classification	 <p>The diagram is a diamond-shaped hazard diamond. The top triangle is red and contains the number '0'. The left triangle is blue and contains the number '0'. The right triangle is yellow and contains the number '0'. The bottom triangle is white and contains the text '--'. The diamond is labeled 'FLAMMABILITY' at the top, 'HEALTH' on the left, 'REACTIVITY' on the right, and 'OTHER' at the bottom.</p>
----------------------------	---

Section 4: First Aid Measures

General Overview:	Contact or inhalation of dust may cause irritation to eyes, skin and respiratory organs or slight allergic reaction.
Inhalation:	If inhaled large amount and symptoms occur, remove victim to fresh air and keep at rest. Get medical advice as appropriate.
Skin:	Rinse with plenty of water and soap. If allergic reactions occur, get medical advice as appropriate.
Eyes:	Immediately rinse cautiously with clean water. If symptoms occur, immediately get medical advice/attention.
Ingestion:	Rinse mouth. If symptoms occur, immediately get medical advice/attention. See section 11 for more detailed information on health effects & symptoms.

SECTION 5: Fire Fighting Measures

Flammability of the product:	No data available
Extinguishing Media:	Use water mist, dry chemical powder, carbon dioxide or dry sand. Applying direct water may be dangerous because fire may expand to surroundings.
Hazardous thermal (de)composition products:	In case of fire, toxic decomposition products may be generated.
Special Fire Fighting Procedures:	Take action from windward. Use respiratory protective equipment. Move container to a safe area if it can be done without risk. If it is not possible to move, cool the container and surrounding area with water. Keep out except responsible personnel. Cut off any ignition sources and extinguish with an appropriate agent. Cool the surrounding tank and the buildings with direct water jet to avoid risk of fire spreading. In first-aid firefighting, use water mist and fire foam. In case of a large fire, quickly extinguish using alcohol-resistant foam.
Flash Point:	No data available


Section 6: Accidental Release Measures

Personal Precautions:	Wear suitable protective equipment (see SECTION 8) e.g., safety gloves, protective mask and/or protective glasses to prevent exposure.
Environmental Precautions:	Be careful not to get large amounts of this product scattered or release into the environment. Take care not to release large amounts of spilled material into the environment avoiding causing local effects.
Methods for Clean-up:	In case of a large amount, sweep up scattered materials or vacuum them using a vacuum cleaner then collect them into an empty container. In case of a small amount, wash out with a plenty of water.

SECTION 7: Handling & Storage

Storage:	Avoid sunlight. Store in a cool, dry and dark place (- 20 to - 80 °C) with desiccants.
Handling:	After taking out from cool and dark place (-20 to -80 °C), ensure that the product in the container become room temperature before opening it to prevent moisture absorption. Install appropriate equipment and wear suitable protective apparatus to prevent inhaling or contact with eyes, skin, or clothes. Install eye washer and hand washer around the handling area. Use only at well-ventilated area without moisture. Avoid making impacts on container or handling violently. Wash hands thoroughly after handling. Do not eat, drink, or smoke when using this product. Wash contaminated clothing before reuse.

SECTION 8: Exposure controls / Personal Protection

Respiratory Protection:	 <p>Wear dust mask as necessary.</p>
Skin and Body:	  <p>Wear protective gloves as necessary. Wear protective clothing and boots as necessary.</p>

Eyes:	 <p>Wear safety glasses or goggles as necessary.</p>
Ventilation/Engineering Measures:	Because the powder is light and easy to scatter, handle only in a calm place. Use sealed instrument or local ventilation as necessary.
Hygiene:	Handle in accordance with good industrial hygiene and safety practice.
Other:	Acceptable concentration (exposure limit, biological exposure index) ACGIH TLV-TWA (2016): 3 mg/m ³ (Respirable particles) 10 mg/m ³ (Inhalable particles)

SECTION 9: Physical and Chemical Properties

Appearance & Odor:	Yellow to yellow-brownish lyophilized powder. Slight characteristic odor.
Formula	N/A
Molecular Wt.	N/A
Melting Pt.	No data available
Boiling Pt.	No data available
Density:	No data available
Vapor Pressure:	No data available
Evaporation Rate:	No data available
Vapor Density:	No data available
Solubility:	Soluble in water. Insoluble in organic solvents.
Flash Point:	No data available
Autoignition Temp:	No data available

SECTION 10: Stability and Reactivity

Stability:	Stable for one year under recommended storage conditions.
Hazardous decomposition products:	No data available
Materials to Avoid:	No data available
Conditions to avoid:	High temperature, high humidity, and moisture absorption can stop enzyme activity.

SECTION 11: Toxicological Information

RTECS#:	N/A
ACUTE Toxicity:	Contact or inhalation of dust may cause irritation to eyes, skin, and respiratory organs or slight allergic reaction.
CHRONIC Toxicity:	N/A
Chronic Exposure: Carcinogen: Mutagen: Teratogen: Reproductive:	<p>IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed human carcinogen by IARC.</p> <p>AGGIH: No component of this product present at levels greater than or equal to 0.1% is identified as probable, potential human carcinogen by ACGIH.</p> <p>NTP: No component of this product present at levels greater than or equal to 0.1% is identified as known or anticipated human carcinogen by NTP.</p> <p>OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as known or potential human carcinogen by OSHA.</p> <p>EPA: No classification on carcinogenic data is available from EPA</p>

SECTION 12: Ecological Information

Ecotoxicity:	Toxicity to fish is expected to be low.
Mobility:	No data available
Persistence and degradability:	This product is readily biodegradable.
Bioaccumulative potential:	Bioaccumulative potential is expected to be low.
Other adverse effects:	No data available
Corrosivity Characteristic:	No data available
General Notes:	To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated.

SECTION 13: Disposal Considerations

Residue Waste or Unused product:	Dispose of waste in accordance with applicable local, regional and international regulations and standards.
Contaminated Packaging:	Containers should completely be cleaned up before disposal.

SECTION 14: Transportation Information

UN ID#:	N/A
----------------	-----

ADR / RID (LAND):	No data available
DOT regulations:	No data available
IMDG/IMO (SEA):	No data available
IATA/DGR (AIR):	No data available
Special Provisions:	N/A

SECTION 15: Regulatory Information

Health Phrases:	Danger! H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled
Risk Phrases:	P261: Avoid breathing dust/fume/gas/mist/vapors/spray. P284: Wear respiratory protection
Safety Phrases:	P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing P342+P311: If experiencing respiratory symptoms: Call a POISON CENTER /doctor P501: Dispose of contents/ container in accordance with related laws and local/ regional regulations.
EU Regulations:	N/A
US Regulations:	TSCA: No products listed California Proposition 65: No products listed
U.S. Federal Regulations:	SARA 302/304 emergency planning and notification: No products were found. SARA 311/312 MSDS distribution-chemical inventory-hazard identification: No products were found. SARA 313 toxic chemicals notification and release reporting: No products were found. Clean Water Act (CWA) 307: No products were found. Clean Water Act (CWA) 311: No products were found. Clean Air Act (CAA) 112 accidental release prevention: No products were found. Clean Air Act (CAA) 112 regulated flammable substances: No products were found. Clean Air Act (CAA) 112 regulated toxic substances: No products were found. OSHA: No products were found.
WHMIS (Canada):	N/A

SECTION 16: Other Information

LIABILITY STATEMENT: *The above information is believed to be correct but does not purport to be all-inclusive and shall be used only as a guide. AG Scientific shall not be held liable for any damages resulting from handling or from contact with the above product. AG Scientific products are for research purposes only. Not for human use or consumption.*

