Material Safety Data Sheet (MSDS) for CUSABIO Recombinant Protein

Revision Date 1/1/2024

1. Product and Company Identification

Product Name:	Recombinant Clostridium kluyveri NAD-dependent 4-hydroxybutyrate dehydrogenase (4hbD)
CAS Number:	N/A
Catalog Number:	CSB-YP327911CWX
Company Name:	WUHAN HUAMEI BIOTECH Co., Ltd.
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2. Hazards identification

Classification of the substance or mixture:	Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008. This substance is not classified as dangerous according to Directive 67/548/EEC.
Label elements:	The product does not need to be labelled in accordance with EC directives or respective national laws.
Other hazards:	This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

3. Composition/Information on Ingredients

Reagent:	Recombinant Clostridium kluyveri NAD-dependent 4-hydroxybutyrate dehydrogenase (4hbD)
Quantity:	20μg/100μg/1mg(1mg*1 or 500ug*2)

4. First Aid Measures

Ingestion:	If the protein is swallowed, wash out mouth with water provided person is conscious. Call a physician or poison control.

Skin Contact:	If the protein contacts the skin, flush with copious amounts of water and wash with soap and water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician if irritation or discomfort develops.
Inhalation:	If the protein is inhaled, remove to fresh air. If breathing becomes difficult give oxygen. If breathing stops, administer artificial respiration. Call a physician.
Eye Contact:	If the protein contacts the eyes, flush with copious amounts of water for at least 15 minutes. Check for and remove contact lenses. Assure adequate flushing by separating the eyelids. Get immediate medical attention.

5. Fire and Explosion Hazard Data

The protein doesn't pose a significant risk in case of fire. Fire fighting media should be selected to suit other materials involved in the fire. It is recommended that firefighters wear protective gear and self-contained breathing apparatus to limit their exposure.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures:	Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Avoid breathing dust.
Environmental precautions:	Do not let product enter drains.
Methods and materials for containment and cleaning up:	Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

7. Handling and Storage

This protein should be stored as recommended on the product label. It should be kept in tightly closed vials. Refer to the storage section of the protein insert for future information. This protein should only be handled and used by qualified, trained professionals.

8. Exposure Controls, Personal Protection

Appropriate engineering controls:	Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
Eye/face protection:	Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection:	The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it. Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.
Body Protection:	impervious clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Respiratory protection:	For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

9. Physical and Chemical Properties

Physical State:	Lyophilized powder
Color:	Clear.
Odor:	None detectable.
pH:	5 - 10
Boiling Point:	Not applicable.
Melting Point:	Not applicable.
Flash Point:	Not applicable.
Flammability:	Not Flammable.
Auto flammability:	Will not occur.
Vapor Pressure:	Not applicable.
Relative Density:	1-10 mg/ml
Water Solubility:	100% soluble.

10. Stability/Reactivity

Stability and Reactivity:	The product is stable
Conditions to avoid:	Not available
Materials to avoid:	Not available
Hazardous Decomposition products:	Not available

11. Toxicological Information

Information on toxicological effects:	No data available
Acute toxicity:	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
IARC:	No components of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
Reproductive toxicity:	No data available
Specific target organ toxicity - single exposure:	No data available
Specific target organ toxicity - repeated exposure:	No data available
Aspiration hazard:	No data available
RTECS:	Not available

12. Ecological Information

Toxicity:	No data available
Persistence and degradability:	No data available
Bioaccumulative potential:	No data available
Mobility in soil:	No data available
Results of PBT and vPvB assessment:	This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.
Other adverse effects:	No data available

13. Disposal Considerations

Product:	Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Offer surplus and non-recyclable solutions to a licensed disposal company.
Contaminated packaging:	Dispose of as unused product.

14. Transport Information

Road / Railway Haulage ADR/RID:	Not restricted.
Sea Freight IMO (IMDG):	Not restricted.
Air Freight IATA (ICAO):	Not restricted.
UN Number:	Not applicable.

15. Regulatory Information

This safety datasheet complies with the requirements of Regulation(EC)NO.1907/2006

16. Other Information

This reagent is sold only for research use by personnel familiar with the toxicology of organic chemicals and who are well trained in good laboratory habits, such as avoiding spills, keeping hands clean at all times and not rubbing eyes with hands while working in the laboratory.

This reagent is sold only in milliliter quantities for use in biological research. No other use is intended.

The above information is believed to be correct but does not purport to be all-inclusive and shall be used as a guide. WUHAN HUAMEI Biotech Co., Ltd. shall not be held liable for any damage resulting from handling or contact with the above product. The burden of safe use of these materials rests solely with the user.