

Product Name: Nu-BIND™ (Natural and Organic)

Date of issue: 11/05/2018
Print date: 11/05/2018
Revision: 02 (US)

29 CFR 1910.1200 (OSHA HazCom 2012)

RIBUS, Inc. encourages and expects you to read and understand the entire SDS, as it contains important information. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

1. Identification of the substance/preparation and of the company

1.1 Product identifier: Nu-BIND™
1.2 Use of the substance/preparation: Excipients for nutritional and food products

1.3 Supplier

Company: RIBUS, Inc.
Street: 10900 Manchester Road
Postcode/City: St. Louis, MO 63122
USA

Phone/Fax/e-mail: +1-314-727-4287 / +1-314-727-1199 / info@ribus.com

1.4 Emergency telephone numbers

Phone: +1-406-493-5314
Fax: +1-314-727-1199
Contact person: Steve Dybdal

2. Hazards Identification

2.1 GHS Classification: **Combustible dust**

2.2 GHS Label element

Signal word: WARNING!

Hazard statements: May form combustible dust concentration in air.

Other hazards: Fine dust clouds may form explosive mixtures with air.
Handling and/or processing of this material may generate a dust which can cause mechanical irritation of the eyes, skin, nose and throat.
Exposure to large concentration of air-borne dust of this material may cause mechanical irritation of the mucous membranes and respiratory tract.
The product is very absorbent and may have a drying effect on skin and eyes.
When exceeding the OEL (Occupational Exposure Limit) a mechanical overburdening of the respiratory system is possible.

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Precautionary statements

Prevention: Keep away from heat/sparks/open flames/hot surfaces.
No smoking.
Prevent dust accumulation.
Ground/bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting/equipment.
Take precautionary measures against static discharge.

Other hazards: Slipping hazard.

3. Composition/Information on Ingredients

3.2 Preparation

| Components: | CAS Number |
|-------------|-------------------------|
| Guar Gum | 9000-30-0 |
| Gum Arabic | 9000-01-5 |
| Agave Fiber | 9005-80-5 |
| Rice Hulls | 90106-37-9 / 68553-81-1 |
| Agave Syrup | 97404-23-4 |

The product was developed to meet customer's specific requirements.

4. First-aid measures

4.1 Description of first aid measures

General Information

Remove contaminated clothes. Call a doctor, if there are any signs of damage to health.
If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Inhalation

Bring patient to fresh air. Seek medical advice if breathing discomfort persists.

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Skin

Wash skin with plenty of water.

Eye

Rinse immediately and as long as possible (30 minutes at least) with plenty of water. Eyelids should be held away from the eyeball to ensure thorough rinsing. Remove contact lenses if present.

Ingestion

Rinse mouth with water. Do not give milk or alcoholic beverages.

Never give anything by mouth to an unconscious person.

No emergency medical treatment necessary. Get medical attention if symptoms appear.

4.2 Most important symptoms and effects (acute & delayed)

Additional important symptoms and effects are described in Section 11: Toxicology information.

4.3 Indication of any immediate needed attention and special treatment needed.

No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

5. Fire-Fighting measures

5.1 Extinguishing media

Appropriate: Water, Dry chemical fire extinguisher, Carbon dioxide fire extinguisher

Inappropriate: Water jet

5.2 Special hazards arising from the product

Do not permit dust to accumulate. When suspended in air dust can pose an explosion hazard. Minimize ignition sources. If dust layers are exposed to elevated temperatures, spontaneous combustion may occur. Pneumatic conveying and other mechanical handling operations can generate combustible dust. To reduce the potential for dust explosions, electrically bond and ground equipment and do not permit dust to accumulate. Dust can be ignited by static discharge. During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Carbon monoxide (CO) and Carbon dioxide (CO₂).

5.3 Advice for fire fighters

Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire-fighting clothing (includes fire-fighting helmet, coat, trousers, boots and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

Additional information

Keep people away. Isolate fire and deny unnecessary entry. Soak thoroughly with water to cool and prevent re-ignition. Cool surroundings with water to localize fire zone. Hand held dry chemical or carbon dioxide extinguishers may be used for small fires. Dust explosion hazard may result from forceful application of fire extinguishing agents. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

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6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedure

Keep unnecessary and unprotected personnel from entering the area.

Material becomes slippery when wet. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls/Personal Protection.

Avoid dust formation. Do not breathe dust.

6.2 Environmental precautions

Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

6.3 Methods and material for containment and cleaning up

Contain spilled material if possible. Sweep up. Use care to minimize generation of airborne dust. Use warm water for cleanup. Collect in suitable and properly labeled containers. See Section 13, Disposal considerations, for additional information.

6.4 Reference to other sections

Keep away from heat, sparks and flame.

6.5 Other information:

Comply with all applicable federal, state and local regulations.

7. Handling and Storage

7.1 Precautions for safe handling

Good housekeeping and controlling of dusts are necessary for safe handling of product. Provide exhaust ventilation if dust is formed. See Section 8, Exposure Controls/Personal Protection.

The material can accumulate static charge and can therefore cause electrical ignition of flammable atmospheres.

Do not permit dust layers to accumulate, for example, on floors, ledges, and equipment, in order to avoid any potential for dust explosion hazards.

For further guidance on prevention of dust explosions, refer to National Fire Protection Association (NFPA) 654: "Standard for the prevention of Fire and Dust Explosions from the Manufacturing, Processing and Handling of Combustible Particulate Solids".

Provide appropriate exhaust ventilation at machinery and at places where dust can be generated.

Avoid the formation of dust.

7.2 Safe storage conditions and incompatibilities

Keep away from heat, sparks and flame. No smoking open flames or sources of ignition in handling and storage area. Electrically ground and bond all equipment.

The product is hygroscopic. Protect from atmospheric moisture and water.

Arrangements for the prevention of dust & aerosols

Avoid dust formation.

General hygiene regulations

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Use good personal hygiene. Do not eat or store food in working area. Wash hands before smoking or eating.

Storage conditions

Storage temperature: 5 - 30°C (41-86°F)

Stockroom requirement and package

Store in a dry, cool place. Keep container well closed. See Section 10 for more specific information. Electrical installations / working materials must comply with the technological safety standards.

7.3 Specific end uses

No specific end uses

8. Exposure controls/Personal protection

8.1 Control parameters

8.1.1. Limits for the exposure in the workplace and/or biological limits

Name: Nu-BIND™

TWA total dust 10mg/m³

8.1.2. DNEL-& PNEC-Data

No data

8.1.3. Control-Banding

No data

8.2 Exposure control

8.2.1. Engineering controls

Ventilation

Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

8.2.2. Personal Protection

Respiratory Protection

Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. In dusty or misty atmospheres, use an approved particulate respirator.

The following should be effective types of air-purifying respirators: Particulate filter.

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Hand protection

Wear resistant gloves (consult your safety equipment supplier).

Eye/Face Protection

Use safety glasses. If there is a potential for exposure to particles which could cause eye discomfort, wear chemical goggles.

Skin protection

Protective work clothing.

8.2.3. Limitation and monitoring environmental exposure

See Section 6, no others required.

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance:

State of matter: Powder

Odor: neutral aroma

Color: off white / tan

Safety related basic data

| | |
|----------------------------|---|
| Explosion hazard: | The product is considered non-explosive; nevertheless explosive dust/air mixture. |
| Lower explosion limit: | No data available |
| Upper explosion limit: | No data available |
| Vapor pressure: | Not applicable |
| Density: | No data available |
| Flow time: | No data available |
| Solubility in water: | not completely soluble in water |
| pH: | Not applicable |
| Boiling point: | Not applicable |
| Flash point: | No data available |
| Auto-ignition temperature: | No data available |

9.2 Other information

Note: The physical data presented above are typical values and should not be construed as a specification.

10. Stability and Reactivity

10.1 Reactivity

Not reactive. No decomposition if stored and applied as directed.

10.2 Chemical stability

Stable under recommended storage conditions. See Section 7, Handling and storage.

10.3 Possibility of hazardous reaction

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Not reactive. Dust may form explosive mixture in air.

10.4 Conditions to avoid

Avoid electrostatic charge and temperatures above 80°C (176°F). Increased temperature could cause decomposition.

10.5 Incompatible materials

Avoid contact with oxidizing materials. Avoid contact with: Strong acids. Strong bases.

10.6 Hazardous decomposition products

Decomposition products depend upon temperature, air supply and the presence of other materials.

11. Toxicological Information

For compositions:

Acute toxicity: no acute toxicity

Ingestion: Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts. For similar materials: LD50, Rat > 2000 mg/kg. Swallowing may result in gastrointestinal irritation.

Eye contact: Solid or dust may cause irritation or corneal injury due to mechanical action.

Skin contact: Essentially nonirritating to skin.

Skin Absorption: No adverse effects, anticipated by skin absorption. The dermal LD 50 has not been determined.

Inhalation: No adverse effects are anticipated from single exposure to dust. Exposure to a large concentration of air-borne dust of this material may cause mechanical irritation of the mucous membranes and respiratory tract.

According practical experience: Repeated ingestion of similar products by humans has not resulted in known significant adverse effects.

Chronic toxicity and carcinogenicity: Similar products did not cause cancer in long-term animal studies.

Toxicological assay: Similar products did not cause birth defects or other toxic effects to the fetus in laboratory animal studies.

Reproductive Toxicity: In animal studies, a similar cellulosic has been shown not to interfere with reproduction.

Genetic Toxicology: Similar products were negative in both, in vitro and animal genetic toxicity studies.

Carcinogenicity:

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.

OSHA

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No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

NTP

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

12. Ecological Information

12.1 Toxicity

Toxicity to fish: LC50 (Fish): > 100mg/l.

12.2 Persistence and Degradability

No appreciable biodegradation is expected.

12.3 Bioaccumulation potential

No data available.

12.4 Mobility

No data available.

12.5 Result of PBT properties

No data available.

12.6 Other deleterious effect

No data available.

13. Disposal Considerations

13.1 Method for waste management

Substance/Preparation

Any disposal practice must be in compliance with all local, state and federal laws and regulations. Do not dump into any sewers, on the ground or in water.

Status according waste disposal regulations

No data available

Contaminated package

According to local regulations. Empty drums or containers can be washed out for reuse. Do not allow washing water to enter inter watercourses.

Cleaned package

Packing must be recycled in accordance with national and local regulation on the environmental protection. Recommended purifier: water

14. Transport Information

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DOT

Not regulated for transport

Classification for SEA transport (IMO-IMDG)

Not regulated for transport

Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code

Consult IMO regulations before transporting ocean bulk.

Classification for AIR transport (IATA/ICAO)

Not regulated for transport

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

15. Regulatory Information

OSHA Hazard Communication Standard

This product contains "Hazardous Chemicals" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SARA 311/312 Hazards

Fire Hazard

SARA 313, Component(s) 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.

Pennsylvania Worker and Community Right-To-Know Act:

To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986)

This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

United States TSCA Inventory (TSCA)

All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

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16. Other information

Revision

Identification: Valid from 07/16/2015, Version 01 (US)

Acronyms

SDS=Safety Data Sheet

ICAO=International Civil Aviation Organization

IMDG=International Maritime Code for Dangerous Goods

DOT=US Department of Transportation

IATA=International Air Transport Association

LC50=Lethal concentration, 50%

LD50=Lethal dose, 50%

OSHA=Occupational Safety and Health Administration

CAS=Chemical Abstracts Service (Division of the American Chemical Society)

LUB=Lubricant

Additional information

RIBUS, Inc. urges each customer or recipient of this SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, expressed or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific SDSs, we are not and cannot be responsible for SDSs obtained from any source other than ourselves. If you have obtained an SDS from another source or if you are not sure that the SDS you have is current, please contact us for the most current version.

***Important:** While the descriptions, designs, data and information contained herein are presented in good faith and believed to be accurate, it is provided for your guidance only. Because many factors may affect processing or application/use, we recommend that you make tests to determine the suitability of a product for your particular purpose prior to use. No warranties of any kind, either expressed or implied, including warranties of merchantability or fitness for a particular purpose, are made regarding products described or designs, data or information set forth, or that the products, designs, data or information may be used without infringing the intellectual property rights of others. In no case shall the descriptions, information, data or designs provided be considered a part of our terms and conditions of sale. Further, you expressly understand and agree that the descriptions, designs, data and information furnished by our company thereunder are given gratis and we assume no obligation or liability for the description, designs, data and information given or results obtained, all such being given and accepted at your risk.*