Heartland Energy Group LTD.
PO Box 543
Grain Valley MO 64029
1.877.797.2811

SAFETY DATA SHEET

I. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product: Nanobind®
General Description: Natural Organic Compounds
Revision Date: 1/1/2022
REACH Registration: The component in this product has been Registered according to Article 2 REACH Regulation (EC) No. 1907/2008

HMIS Rating	
Health	0
Fire	0
Reactivity	0
Personal Protection	A

Rating Scale
4 = Extreme
3 = High
2 = Moderate
1 = Slight
0 = Insignificant

For General Information call: 1-877-797-2811

For Chemical Emergency ONLY (spill, leak, fire, exposure or accident), call CHEMTREC at 1-800-424-9300

II. HAZARD INFORMATION

GHS Classification of the substance or mixture

Acute Toxicity-Oral: Category 5
Skin Corrosion/Irritation: Category 3
Serious Eye Damage/Eye Irritation: Category 2B

GHS Label Elements

Signal Word: **Warning**
Symbols: **Not Applicable**

Hazard Statements: **May be harmful if swallowed**
Causes mild skin irritation
Causes eye irritation

Hazards not otherwise classified (HNOC) or not covered by GHS-Not Applicable

Other Information: May cause mild skin irritation if not rinsed off with soap and water
May cause eye irritation if not rinsed out with copious amounts of water

III. COMPOSITION/INFORMATION ON INGREDIENTS

Substances
Not applicable

Mixtures
Contains no hazardous ingredients at levels requiring disclosure by the OSHA Hazard Communication Standard (29 CFR 1910.1200**)**

IV. FIRST-AID MEASURES

GENERAL: If exposed or concerned, get medical attention/advice. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before re-use. Never give anything to an unconscious person.

INHALATION: IF INHALED: Remove to fresh air and keep at rest in a comfortable position for breathing.

SKIN: IF ON SKIN (or clothing): Remove affected clothing and wash all exposed skin with water for at least 15 minutes. If irritation develops or persists, seek medical attention.

EYES: IF IN EYES: Immediately flush with plenty of water for at least 15 minutes. Remove contact lenses if present and easy to do so. If pain, blinking or irritation develops or persists, get medical attention. Continue rinsing.

INGESTION: IF SWALLOWED: Rinse mouth thoroughly. Do not induce vomiting without advice from Poison Control Center or medical professional. Seek medical attention if you feel unwell.

Most important symptoms and effects, both acute and delayed:

Symptoms/injuries after inhalation:	May cause respiratory irritation
Symptoms/injuries after skin contact:	May cause skin irritation
Symptoms/injuries after eye contact:	Direct contact with the eyes is likely to be irritating
Symptoms/injuries after ingestion:	May cause gastrointestinal irritation.

Indication of any immediate medical attention and special treatment needed

No additional information available.

V. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable extinguishing media: Carbon dioxide. Dry powder. Foam

Special hazards arising from the substance or mixture

Fire hazard:	Product is not flammable
Explosion hazard:	Product is not explosive
Reactivity:	No dangerous reactions known under normal conditions of use.

Advice for firefighters

Firefighting instructions:	Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Do not dispose of fire-fighting water in the environment. Prevent human exposure to fire, fumes, smoke and products of combustion.
Protection during firefighting:	Do not enter fire area without proper protective equipment, including respiratory protection.

VI. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

General measures: Evacuate area. Keep upwind. Ventilate area. Spill should be handles by trained clean-up crews properly equipped with respiratory equipment and full chemical protective gear (see Section 8)

For non-emergency personnel:

Protective equipment:	Wear protective equipment as described in Section 8.
Emergency procedures:	Evacuate unnecessary personnel.

For emergency responders: Wear suitable protective clothing, gloves and eye or face protection. Approved supplied air respirator, in case of emergency.

Environmental precautions: Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Avoid release to the environment.

Methods and material for containment and cleaning up:

For containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Sweep or shovel spills into appropriate container for disposal.

Methods for cleaning up:	Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Wash spill area thoroughly with plenty of soap and water. Place in a suitable container for disposal in accordance with waste regulations (see Section 13)

Reference to other sections
No additional information available

VII. HANDLING AND STORAGE

Precautions for safe handling

Precautions for safe handling:	Do not handle until all safety precautions have been read and understood. Avoid contact with skin, eyes and clothing. Provide good ventilation in process area to prevent formation of vapor. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

Conditions for safe storage, including any incompatibilities

Storage conditions:	Store in dry, well ventilated area. Keep container closed when not in use.

VIII. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure controls:

Appropriate engineering controls:

Provide adequate general and local exhaust ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Use explosion-proof equipment with flammable materials. Ensure adequate ventilation, especially in confined areas.

Personal protective equipment:

Gloves. Protective goggles

Hand protection:	Use gloves chemically resistant to this material when prolonged or repeated contact could occur. Gloves should be classified under Standard EN 374 or ASTM F1296. Suggested glove materials are: Neoprene, Nitrile/butadiene rubber, Polyethylene, Ethyl vinyl alcohol laminate, PVC or vinyl. Suitable gloves for this specific application can be recommended by the glove supplier.
Eye protection:	Use eye protection suitable to the environment. Avoid direct contact with eyes.
Skin and body protection:	Wear long sleeves and chemically impervious PPE/coveralls to minimize bodily exposure.
Respiratory protection	Use NIOSH-approved dust/particulate respirator. Where vapor, mist or dust exceed PELs or other applicable OELs, use NIOSH-approved respiratory protective equipment.

IX. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state:	Liquid
Color:	Dark brown. Black
Odor:	No data available

Odor Threshold:	No data available
pH:	9.5-10.5
Relative evaporation rate (butylacetate=1):	No data available
Melting point:	No data available
Freezing point:	No data available
Boiling point:	100°C (212°F)
Flash point:	Nonflammable (T.C.C.)
Auto-ignition temperature:	No data available
Decomposition temperature:	No data available
Flammability (solid, gas):	No data available
Vapor pressure:	Same as water
Relative vapor density at 20°C:	No data available
Relative density:	1.01-1.03
Solubility:	Water: 99%
Log Pow:	No data available
Log Kow:	No data available
Viscosity, kinematic:	No data available
Viscosity, dynamic:	No data available
Explosive properties:	No data available
Oxidizing properties:	No data available
Explosive limits:	No data available

Other information:
No other information

X. STABILITY AND REACTIVITY

Reactivity
No dangerous reactions known under normal conditions of use.

Chemical stability
Stable under recommended handling and storage conditions (see section 7)

Possibility of hazardous reactions
None known

Conditions to avoid
None known

Incompatible materials
Strong oxidizing agents

Hazardous decomposition products
Carbon oxides (CO, CO2). Sulfur oxides. Hydrocarbons.

XI. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute toxicity:	Not classified
Skin corrosion/irritation:	Not classified
Serious eye damage/irritation:	Not classified
Respiratory or skin sensitization:	Not classified
Germ cell mutagenicity:	Not classified
Carcinogenicity:	Not classified
Reproductive toxicity:	Not classified
Specific target organ toxicity (single exposure):	Not classified
Specific target organ toxicity (repeated exposure):	Not classified
Aspiration hazard:	Not classified

Symptoms/injuries after inhalation:	Not classified
Symptoms/injuries after skin contact:	Not classified
Symptoms/injuries after eye contact:	Not classified
Symptoms/injuries after ingestion:	Not classified

XII. ECOLOGICAL INFORMATION

Toxicity
Ecology – general: No information available

Persistence and degradability
Nanobind® –
Persistence and degradability No information available

Bio accumulative potential No additional information available

Mobility in soil No additional information available

Other adverse effects No additional information available

XIII. DISPOSAL CONSIDERATIONS

Water Treatment Methods
Waste treatment methods: Do not discharge to public wastewater systems without permit of pollution control authorities. No discharge to surface waters is allowed without an NPDES permit.
Waste disposal recommendations: Dispose in a safe manner in accordance with local/national regulations. Do not allow the product to be released into the environment.

XIV. TRANSPORT INFORMATION

In accordance with DOT
Not hazardous for transport
Additional information
Other information: No supplementary information available

Transport by sea
No additional information available

Air transport
No additional information available

XV. REGULATORY INFORMATION

US Federal regulations
NanoBind®
All chemical substances in this product are listed in the EPA (Environment Protection Agency) TSCA (Toxic Substances Control Act) Inventory
SARA Section 311/312 Hazard Classes Delayed (chronic) health hazard

Sodium hydroxide (1310-73-2)
Not listed on SARA 313

Sodium hydroxide (1310-73-2
CERLA RQ 1000 lb

International regulations
No additional information available

US State Regulations
California Proposition 65

This product does not contain any substances known to the state of California to cause cancer and/or reproductive harm.

Sodium hydroxide (1310-73-2
U.S. – Massachusetts – Right To Know List
U.S. – New Jersey – Right to Know Hazardous Substance List
U.S. – Pennsylvania – RTK (Right to Know) List

XVI. OTHER INFORMATION

Indication of changes:	Revision 1.0: New SDS Created
Revision date:	2/10/2016
Other information:	
NFPA health hazard:	1 – Exposure could cause irritation but only minor residual injury even if no treatment is given
NFPA fire hazard:	0 – Materials that will not burn
NFPA reactivity:	0 – Normally stable, even under fire exposure conditions and are not reactive with water.

HMIS III Rating

Health:	0
Flammability:	0
Physical:	0
Personal Protection:	

Disclaimer:

Please be advised that it is your responsibility to inform your employees of the hazards of this substance, to advise them of what these properties mean and be sure they understand exposure information. The information provided in this Safety Data Sheet is correct or the best or our knowledge, information and belief at the date of its publication.

The information presented herein, while not guaranteed, was prepared by competent technical personnel and is true and accurate to the best of our knowledge. No warranty or guarantee, express or implied, is made regarding performance, stability or otherwise. This information is not intended to be all-inclusive as to the manner and conditions of use, handling and storage. Other factors may require additional safety or performance considerations. While our technical personnel will be happy to respond to questions regarding safe handling and use procedures, the handling and use remains the responsibility of the consumer. No suggestions are intended as, and should not be constructed as, a recommendation to infringe on any existing patents or to violate any Federal, State, or local laws.

End of Safety Data Sheet