

Material Safety Data Sheet
Version No.: 1.0 (Pub. date: 2023-11-30)

Ni-NTA Magnetic Beads

1. Product and Company Information

- A. Product Name: Ni-NTA Magnetic Beads
- B. Recommended Use: For research use only
- C. Supply Information:

Company: Bioneer Corporation

Address: 71, Techno 2-ro, Yuseong-gu, Daejeon 34013, Republic of Korea

Emergency telephone number: +82-42-1588-9788

2. Hazards Identification

- A. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Flammable liquids (Category 3), H226

- B. Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram:



Signal word: Warning

Hazard statement(s): H226 Flammable liquid and vapor.

Precautionary statement(s)

P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P233: Keep container tightly closed.

P240: Ground and bond container and receiving equipment.

P241: Use explosion-proof electrical/ ventilating/ lighting/ equipment.

P242: Use non-sparking tools.

P243: Take action to prevent static discharges.

Response

P303 + P361 + P353: If on skin (or hair), take off immediately all contaminated clothing. Rinse skin with water.

P370 + P378: In case of fire, use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Storage

P403 + P235: Store in a well-ventilated place. Keep cool.

Disposal

P501: Dispose of contents. Container according to waste-related laws.

C. Other hazards which do not result in classification

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 Ingredient

| Chemical name | Synonyms | CAS No. | Weight (%) |
|--------------------------|------------------------|---------|------------|
| Ethanol aqueous solution | Ethanol, Ethyl alcohol | 64-17-5 | 15~20% |

4. First Aid Measure

A. Description of first-aid measures

If inhaled: After inhalation: fresh air.

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

In case of eye contact: After eye contact, rinse out with plenty of water with the eyelid held wide open. Call in ophthalmologist if necessary. Remove contact lenses.

If swallowed: After swallowing, make victim drink water (two glasses at most). Consult doctor if feeling unwell.

B. Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

C. Indication of any immediate medical attention and special treatment needed

No data available

5. Fire-fighting Measures

A. Extinguishing media

Suitable extinguishing media: Carbon dioxide (CO₂) Foam Dry powder Water

Unsuitable extinguishing media: For this substance/mixture no limitations of extinguishing agents are given.

B. Special hazards arising from the substance or mixture

Carbon oxides

Combustible.

Vapors are heavier than air and may spread along floors.

Forms explosive mixtures with air at elevated temperatures.

Pay attention to flashback.

Development of hazardous combustion gases or vapours possible in the event of fire.

C. Advice for firefighters

In the event of fire, wear self-contained breathing apparatus.

D. Further information

Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system.

6. Accidental Release Measures

A. Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid substance contact. Do not breathe vapors, aerosols. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert. Advice for emergency responders: Protective equipment see section 8.

For personal protection see section 8.

B. Environmental precautions

Do not let product enter drains. Risk of explosion.

C. Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10).

Take up with liquid-absorbent material. Dispose of properly. Clean up affected area.

D. Reference to other sections

For disposal see section 13.

7. Handling and Storage

A. Precautions for safe handling

Advice on safe handling: Observe label precautions.

Advice on protection against fire and explosion: Keep away from open flames, hot surfaces and sources of ignition.

Take precautionary measures against static discharge.

Hygiene measures: Change contaminated clothing. Preventive skin protection recommended. Wash hands after working with substance. For precautions see section 2.2.

B. Conditions for safe storage, including any incompatibilities

Storage conditions: Keep away from heat and sources of ignition. Keep container tightly closed in a dry and well-ventilated place. Recommended storage temperature see product label.

Storage class: Storage class (TRGS 510): 3: Flammable liquids

C. Specific end use(s): Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

8. Exposure Controls / Personal Protection

A. Control parameters

Ingredients with workplace control parameters

B. Exposure controls

Personal protective equipment

Eye/face protection: Safety glasses

Respiratory protection: Recommended Filter type, Filter A (acc. to DIN 3181) for vapors of organic compounds

Control of environmental exposure: Do not let product enter drains. Risk of explosion.

9. Physical and Chemical Properties

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- A. Appearance: No data available
 - B. Odor: No data available
 - C. Odor threshold: No data available
 - D. pH: No data available
 - E. Melting point/freezing point: No data available
 - F. Initial boiling point and boiling range: No data available
 - G. Flash point: No data available
 - H. Evaporation rate: No data available
 - I. Flammability (solid,gas): No data available
 - J. Upper/lower flammability or explosive limits: No data available
 - K. Vapor pressure: No data available
 - L. Vapor density: No data available
 - M. Density: No data available
 - N. Water solubility: No data available
 - O. Partition coefficient n-octanol/water: No data available
 - P. Autoignition temperature: No data available
 - Q. Decomposition temperature: No data available
 - R. Viscosity: No data available
 - S. Explosive properties: Not classified as explosive.
 - T. Oxidizing properties: none
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10. Stability and Reactivity

- A. Chemical stability and possibility of hazardous reactions

The product is non-reactive under normal conditions of use, storage and transport.

Stable under normal conditions.

- B. Conditions to avoid

Heating

- C. Incompatible materials

No data available

- D. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Hazardous decomposition products formed under fire conditions – carbon oxides

11. Toxicological Information

A. Information on toxicological effects

Mixture

Acute toxicity: Symptoms – Nausea, Vomiting

Symptoms – slight mucosal irritations

Dermal – No data available

Skin corrosion/irritation: Dermatitis Drying-out effect resulting in rough and chapped skin.

Serious eye damage/eye irritation: No data available

Respiratory or skin sensitization: No data available

Germ cell mutagenicity: No data available

Carcinogenicity: No data available

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

B. Additional Information

irritant effects, respiratory paralysis, Dermatitis, Dizziness, narcosis, inebriation, euphoria, Nausea, Vomiting

Systemic effects: euphoria

After absorption: Dizziness, inebriation, narcosis, respiratory paralysis

Other dangerous properties cannot be excluded.

Handle in accordance with good industrial hygiene and safety practice.

Components

Ethanol

| | |
|---------------------------|---|
| Acute toxicity | LD50 Oral – Rat – male and female – 10.470 mg/kg (OECD Test Guideline 401) LC50 Inhalation – Rat – male and female – 4 h – 124,7 mg/l – vapor (OECD Test Guideline 403) Dermal: No data available |
| Skin corrosion/irritation | Skin – Rabbit |

| | |
|--|--|
| | Result: No skin irritation – 24 h (OECD Test Guideline 404) |
| Serious eye damage/eye irritation | Eyes – Rabbit Result: Causes serious eye irritation. (OECD Test Guideline 405) |
| Respiratory or skin sensitization | Maximization Test – Guinea pig Result: negative (OECD Test Guideline 406) Remarks: (in analogy to similar products) The value is given in analogy to the following substances: Methanol |
| Germ cell mutagenicity | Test Type: Ames test Test system: Salmonella typhimurium Result: negative Test Type: In vitro mammalian cell gene mutation test Test system: mouse lymphoma cells Result: negative Method: OECD Test Guideline 478 Species: Mouse – male Result: Positive results were obtained in some in vivo tests. |
| Carcinogenicity | No data available |
| Reproductive toxicity | No data available |
| Specific target organ toxicity – single exposure | No data available |
| Aspiration hazard | No data available |

12. Ecological Information

A. Toxicity

Mixture: No data available

B. Persistence and degradability

No data available

C. Bioaccumulative potential

No data available

D. Mobility in soil

No data available

E. 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.

F. Endocrine disrupting properties

No data available

G. Other adverse effects

Discharge into the environment must be avoided.

Components

Ethanol

| | |
|---|---|
| Toxicity to fish | flow-through test LC50 – Pimephales promelas (fathead minnow) – 15.300 mg/l – 96 h (US-EPA) |
| Toxicity to daphnia and other aquatic invertebrates | static test LC50 – Ceriodaphnia dubia (water flea) – 5.012 mg/l – 48 h Remarks: (ECHA) |
| Toxicity to algae | static test ErC50 – Chlorella vulgaris (Fresh water algae) – 275 mg/l – 72 h (OECD Test Guideline 201) |
| Toxicity to bacteria | static test IC50 – activated sludge – > 1.000 mg/l – 3 h (OECD Test Guideline 209) |

13. Disposal Considerations

Dispose of in accordance with local regulations.

14. Transport Information

- A. ADR: Not regulated
 - B. RID: Not regulated
 - C. IMDG: Not regulated
 - D. IATA: Not regulated
 - E. Special precautions for user: No classified as dangerous in the meaning of transport regulations.
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15. Regulatory Information

- A. Occupational Safety and Health Act
 - Hazardous Substances Prohibited for Manufacturing: Not applicable
 - Hazardous Substances Requiring Permission: Not applicable
 - Threshold Limit Values Chemicals: Not applicable
 - Hazardous Substances Below Permissible Level: Not applicable
 - Hazardous Substances Subject to Working Environment measurement: Not applicable
 - Hazardous Substances Subject to Workers Requiring Health Examination: Not applicable
 - Hazardous Substances Subject to Control: Not applicable
 - Substance Subject to PSM Submission: Not applicable
 - B. Chemicals control act
 - Toxic Chemicals: Not applicable
 - Prohibited Chemicals: Not applicable
 - Restricted Chemicals: Not applicable
 - Substance requiring preparation for accidents: Not applicable
 - C. ACT ON REGISTRATION, EVALUATION, ETC. OF CHEMICALS (K-REACH)
 - Korea Existing Chemicals Inventory (KECI): Not applicable
 - Priority Existing Chemical ('PEC') – subject to registration: Not applicable
 - Priority Control Substances (Korea): Not applicable
 - CMR Substances (Korea): Not applicable
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D. Safety Control of Dangerous Substances act

Safety Control of Dangerous Substances Act: Not applicable

E. Wastes Control Act

Hazardous Substances in Designated wastes: Not applicable

Types of wastes: No data available

F. Other Domestic and International Regulatory Information

- Domestic

Persistent Organic Pollutants (POPs) control act: Not applicable

Ozone Depleting Substances (ODS): Not applicable

- International (EU regulatory information)

EU Candidate list (SVHC): Contains no substance on the REACH candidate list

EU authorization list (REACH Annex XIV): Contains no REACH Annex XIV substances

EU restriction list (REACH Annex XVII): Not applicable

- US Regulatory Information

CERCLA Section 103 (40CFR302.4): Not applicable

EPCRA Section 302 (40CFR355.30): Not applicable

EPCRA Section 304 (40CFR355.40): Not applicable

EPCRA Section 313 (40CFR372.65): Not applicable

- International agreements

No data available

16. Other References

A. Key literature reference and sources for data

B. Issue date: 30-May-2023

C. Revision number and last date revised: 1, 30-Nov-2023

D. Disclaimer

Full text of H-Statements referred to under sections 2 and 3.

H225: Highly flammable liquid and vapor.

H226: Flammable liquid and vapor.

H319: Causes serious eye irritation.

This information is based on our present knowledge and shall be used only as a guide. However, this shall not

constitute a guarantee for any specific product features. BIONEER is not held liable for any damage resulting from handling or from contact with the above products.
