



SAFETY DATA SHEET
 (Globally Harmonized System)

SECTION 1: Identification of the substance/mixture and of the company/undertaking

- 1.1 Product identifier
BIOPLEX® ZMC 842
- 1.2 Other means of identification Not applicable
- 1.3 Recommended use of the chemical and restrictions on use
BIOPLEX® ZMC 842 is a trace mineral proteinate for the further manufacture of dairy and beef cattle.
- 1.4 Details of the supplier of the safety data sheet
 Alltech Inc.
 3031 Catnip Hill Road
 Nicholasville, KY 40356
 Phone: (01) (859) 885-9613 [U.S.A.]
 Fax: (01) (859) 887-6736 [U.S.A.]
- 1.5 Emergency telephone number
 Chem Trec: 1-800-424-9300 24 hours

SECTION 2: Hazards identification

- 2.1 Classification of the substance or mixture Not applicable
 H Phrases: None listed
 P Phrases: None listed
- 2.2 GHS Label elements Not applicable
- 2.3 Other hazards
 Inhalation: Exposure to dust may cause irritation to the nose, throat or respiratory system. If application creates dust, use appropriate approved respiratory protection.
 Skin Contact: Skin contact may cause a slight irritation. Symptoms may include redness, itching and pain.
 Eye Contact: Product may cause slight irritation. Symptoms include redness, itching and pain.
 Ingestion: Not found to be toxic by oral exposure. Ingestion of this product may cause slight irritation.
 Chronic Health Effects: Not identified.

SECTION 3: Composition/information of ingredients

- 3.1 Substances Not applicable
- 3.2 Mixtures

| CAS#: | Component | Weight % |
|-------|----------------------|---------------|
| NA | Zinc proteinate | Not disclosed |
| NA | Manganese proteinate | Not disclosed |
| NA | Copper proteinate | Not disclosed |

NA: Not applicable

SECTION 4: First aid measures

- 4.1 Description of first aid measures
 - Eyes: Flush eyes immediately with copious amounts of clean water for 15 minutes. If irritation or redness persists, seek medical attention if allergic response exhibited.
 - Skin: Remove affected clothing immediately. Flush affected area(s) with copious amounts of soap and water. If skin surface is damaged, apply a clean dressing. Wash contaminated clothing before reuse. If irritation or redness develops, seek medical attention immediately.
 - Inhalation: Remove victim from source and allow to rest in well ventilated area. If breathing is difficult, obtain medical attention immediately.
 - Ingestion: Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Seek medical attention.
- 4.2 Most important symptoms and effects, both acute and delayed Not identified.
- 4.3 Indication of any immediate medical attention and special treatment needed Not identified.

SECTION 5: Firefighting measures

- 5.1 Suitable extinguishing media
 - Use media that is appropriate to treat surrounding fire. Consider alcohol-resistant foam, carbon dioxide, regular dry chemical, or water spray. Avoid heavy stream of water. Self contained breathing apparatus is required.
- 5.2 Special hazards arising from the substance or mixture
 - Evolves carbon dioxide, carbon monoxide or hydrocarbon fumes upon combustion.
- 5.3 Special protective actions for fire-fighters
 - Move container from fire area if it can be done without risk. Do not scatter spilled material with high pressure water streams. Use extinguishing agents appropriate for surrounding fire. Avoid inhalation of material or combustion by-products.
 - Fire fighters should wear self-contained breathing apparatus with full face piece operated in positive pressure mode and protective clothing to prevent contact with skin and eyes.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Ventilate the area. Wear appropriate protective equipment as specified in section 8. Avoid dust formation and avoid inhalation of dust. Use a respirator or a combination filter. Keep unnecessary personnel away.

6.2 Environmental precautions

Place contaminated materials in disposal containers and dispose of in a manner consistent with applicable regulations. Contact local environmental or health authorities for approved disposal of this material. Do not dispose in canals, surface water, or ground water.

6.3 Methods and material for containment and cleaning up

Sweep, shovel, or vacuum up the material. Avoid any excess dust formation. Use caution as product may be slippery when wet. Keep product out of sewage and drainage systems and all bodies of water. Clean spills immediately. Ventilate the contaminated area. Thoroughly wash the area with water after a spill.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Avoid contact and inhalation. Do not get in eyes, on skin, on clothing. Wash thoroughly with soap and water after handling. The use of respiratory protection is advised when dust concentrations exceed any established exposure limits (see section 8).

7.2 Conditions for safe storage, including any incompatibilities

Should be stored in a closed container in a cool, dark area. Shelf life under these conditions is 36 months.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters Not available

Component (CAS#):

8.2 Appropriate engineering controls:

Use process enclosure, general dilution ventilation, or local exhaust systems, where necessary to maintain airborne dust concentrations below the applicable regulations. A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits.

8.3 Individual protection measures

Eye/face: Protective goggles or face shields.

Skin: Wear impervious gloves and general purpose overalls with elasticized cuffs and leg bottoms.

Respiratory: Protection is not normally required. Wear a dust mask or other appropriate approved respiratory protection when effective engineering controls are not feasible or during operations that generate airborne dust concentrations exceeding the relevant standards. A respiratory protection program that meets applicable requirements whenever workplace conditions warrant a respirator's use.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

| | |
|--|---|
| (a) Physical appearance | Brown and green powder |
| (b) Odour | Not discernible |
| (c) Odour Threshold | Not available |
| (d) Bulk Density | 640.6 kg/m ³ (40 lbs/ft ³) |
| (e) pH | Not available |
| (f) Melting point/freezing point | Not available |
| (g) Initial boiling point | Not available |
| (h) Flash point | Not available |
| (i) Evaporation rate | Not available |
| (j) Flammability | Not available |
| (k) Upper/lower flammability or explosive limits | Not available |
| (l) Vapour pressure | Not available |
| (m) Vapour density | Not available |
| (n) Relative density | Not available |
| (o) Solubility | Not available |
| (p) Partition coefficient: n-octanol/water | Not available |
| (q) Auto ignition temperature | Not available |
| (r) Decomposition temperature | Not available |
| (s) Viscosity | Not available |

9.2 Other information

To the best of our knowledge the chemical, physical, and toxicological properties of this product have not been thoroughly investigated.

SECTION 10: Stability and reactivity

| | | |
|------|------------------------------------|---|
| 10.1 | Reactivity | Not available |
| 10.2 | Chemical stability | Product is stable under normal storage conditions (21 °C, 1 atm). |
| 10.3 | Possibility of hazardous reactions | Not available |
| 10.4 | Conditions to avoid | Avoid moisture, heat and sources of ignition. |
| 10.5 | Incompatible materials | Not available |
| 10.6 | Hazardous decomposition products | Not available |

SECTION 11: Toxicological information

11.1 Information on toxicological effects

| | |
|---------------------------------------|---|
| (a) Acute toxicity | Copper proteinate Oral[rat]: 1795 mg/kg |
| (b) Skin corrosion/irritation | Not expected to be toxic. Exposure may cause slight irritation. |
| (c) Serious eye damage/irritation | Not available |
| (d) Respiratory or skin sensitization | Not available |
| (e) Germ cell mutagenicity | Not available |
| (f) Carcinogenicity | Not applicable |
| (g) Reproductive toxicity | Not applicable |
| (h) STOT-single exposure | Not applicable |
| (i) STOT-repeated exposure | Not applicable |
| (j) Aspiration hazard | Not applicable |

- 11.2 Information on the likely routes of exposure Not applicable
- 11.3 Symptoms related to the physical, chemical and toxicological characteristics Not applicable
- 11.4 Delayed and immediate effects and also chronic effects from short and long term exposure
Not applicable
- 11.5 Other information
Other toxicological information: To the best of our knowledge the chemical, physical and toxicological properties of this product have not been thoroughly investigated.

SECTION 12: Ecological information

- 12.1 Toxicity Not available
Component (CAS#):
Test & Species:
- 12.2 Persistence and degradability Not available
- 12.3 Bioaccumulative potential Not available
- 12.4 Mobility in soil Not available
- 12.6 Other adverse effects Not available

SECTION 13: Disposal considerations

- 13.1 Waste treatment methods Not identified
Disposal Instructions: Consult local, state and/or provincial environmental regulatory authorities for acceptable disposal procedures and locations.

SECTION 14: Transport information

- 14.1 UN number Not applicable
- 14.2 UN proper shipping name Not applicable
- 14.3 Transport hazard class(es) Not applicable
- 14.4 Packing group Not applicable
- 14.5 Environmental hazards Not applicable
- 14.6 Special precautions for user Not applicable
- 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
Not applicable

SECTION 15: Regulatory information

- 15.1 Safety, health, and environmental regulation/legislation specific for the substance or mixture
Not available

SECTION 16: Other information

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