



# SAFETY DATA SHEET

## 1. Identification:

|                                  |   |
|----------------------------------|---|
| <b>Product Identifier:</b>       | Mannitol, Reagent (ACS)   |
| <b>Product code:</b>             | BM2023  |
| <b>Synonym(s):</b>               | 1,2,3,4,5,6-HEXANEHEXOL * MANNA SUGAR * MANNITE   |
| <b>Recommended use:</b>          | Professional, scientific and technical activities: other professional, scientific and technical activities. |
| <b>Recommended restrictions:</b> | None known.   |

### Manufacturer/Supplier/Distributor Information

|                                |   |
|--------------------------------|---|
| <b>Company name:</b>           | Biopharm Inc.                               |
| <b>Address:</b>                | 187 South Tilley Road<br>Hatfield, AR 71945 |
| <b>Telephone:</b>              | (870) 389-6114                              |
| <b>Website:</b>                | www.bphchem.com                             |
| <b>E-mail:</b>                 | support@bphchem.com                         |
| <b>Emergency phone number:</b> | Chemtrec 800-424-9300                       |

## 2. Hazard(s) identification:

|  |  |
|--|--|
| <b>Physical hazards</b>                          | Not classified   |
| <b>Health hazards</b>                            | Not classified   |
| <b>Environmental hazards</b>                     | Not classified   |
| <b>OSHA Defined hazards</b>                      | Not classified   |
| <b>Label Elements</b>                            |  |
| <b>Hazard symbol</b>                             | None.  |
| <b>Signal word</b>                               | None.  |
| <b>Hazard statement</b>                          | The substance does not meet the criteria for classification.   |
| <b>Precautionary statement</b>                   |  |
| <b>Prevention</b>                                | Do not breathe mist or vapor. Wear protective gloves/eye protection/face protection.   |
| <b>Response</b>                                  | If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention.   |
| <b>Storage</b>                                   | Store in a well-ventilated place. Keep container tightly closed.   |
| <b>Disposal</b>                                  | Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal. |
| <b>Hazard(s) not otherwise classified (HNOC)</b> | None known.  |
| <b>Supplemental Information</b>                  | None   |

### 3. Composition/information on ingredients

#### Mixtures

| <u>Chemical Name</u> | <u>CAS number</u> | <u>%</u> |
|----------------------|-------------------|----------|
| Mannitol             | 69-65-8           | 100      |

\*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

### 4. First-aid measures

|   |   |
|---|---|
| <b>Inhalation:</b>  | Move to fresh air. Call a physician if symptoms develop or persist.                                       |
| <b>Ingestion:</b>   | Rinse mouth. Get medical attention if symptoms occur  |
| <b>Skin contact:</b>  | Wash off with soap and water. Get medical attention if irritation develops and persists.                  |
| <b>Eye contact:</b>   | Do not rub eyes. Rinse with water. Get medical attention if irritation develops and persists.             |
| <b>Most important symptoms/effects, acute and delayed:</b>                    | Dusts may irritate the respiratory tract, skin and eyes.  |
| <b>Indication of immediate medical attention and special treatment needed</b> | Treat symptomatically.  |
| <b>General information:</b>   | Ensure medical personnel are aware of the material(s) involved and take precautions to protect themselves |

### 5. Fire-fighting measures

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| <b>Suitable extinguishing media:</b>                                 | Water fog. Foam. Dry chemical powder. Carbon dioxide (CO <sub>2</sub> ).   |
| <b>Unsuitable extinguishing media:</b>                               | Do not use water jet as an extinguisher, as this will spread the fire.   |
| <b>Specific hazards arising from the chemical</b>                    | During fire, gases hazardous to health may be formed. High concentration of airborne dust may form explosive mixture with air. |
| <b>Special protective equipment and precautions for firefighters</b> | Self-contained breathing apparatus and full protective clothing must be worn in case of fire.                                  |
| <b>Fire-fighting equipment/instructions</b>                          | Use water spray to cool unopened containers.   |
| <b>Specific Methods</b>  | Use standard firefighting procedures and consider the hazards of other involved materials.                                     |
| <b>General fire hazards</b>  | Dusts may form an explosive mixture with air.  |

### 6. Accidental release measures

|  |   |
|--|---|
| <b>Personal precautions, protective equipment, and emergency procedures:</b> | Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. For personal protection, see section 8 of the SDS. |
|--|---|

**Methods and materials for containment and cleaning up:** ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Avoid the generation of dusts during clean-up. Collect dust using a vacuum cleaner equipped with HEPA filter. This product is miscible in water. Stop the flow of material, if this is without risk.

Large Spills: Wet down with water and dike for later disposal. Shovel the material into waste container. Following product recovery, flush area with water.

Small Spills: For waste disposal, see section 13 of the SDS. Small Dry Spills: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area

**Environmental precautions:** Avoid discharge into drains, water courses or onto the ground.

## 7. Handling and storage

**Precautions for safe handling:** Minimize dust generation and accumulation. Provide appropriate exhaust ventilation at places where dust is formed. Practice good housekeeping.

**Conditions for safe storage, including any incompatibilities:** Store in original tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS). Keep containers tightly closed.

## 8. Exposure controls/personal protection

**Occupational exposure limits:** This substance has no PEL, TLV, or other recommended exposure limit.

**Biological limit values:** No biological exposure limits noted for the ingredient(s).

**Appropriate engineering controls:** If material is ground, cut, or used in any operation which may generate dusts, use appropriate local exhaust ventilation to keep exposures below the recommended exposure limits.

### Individual protection measures, such as personal protective equipment

**Eye/face protection:** Wear safety glasses with side shields (or goggles).

#### Skin protection

**Hand protection:** Wear appropriate chemical resistant gloves.

**Other:** Wear suitable protective clothing.

**Respiratory protection:** Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits.

**Thermal hazards:** Wear appropriate thermal protective clothing, when necessary.

**General hygiene consideration:** Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

## 9. Physical and chemical properties

### Appearance:

**Physical state:** Solid.

**Form:** Powder.

**Color:** White.

**Odor:** Odorless

**Odor threshold:** Not available.

|   |   |
|---|---|
| <b>Vapor Pressure</b>                               | Not available.                            |
| <b>Vapor density</b>                                | Not available.                            |
| <b>pH:</b>  | Not available.                            |
| <b>Relative density:</b>                            | Not available.                            |
| <b>Melting point/freezing point:</b>                | 330.8 - 334.4 °F (166 - 168 °C)           |
| <b>Initial boiling point and boiling range</b>      | 554 - 563 °F (290 - 295 °C) 0.466628 kPa  |
| <b>Solubility (ies)</b>                             | 216 g/l at 25 °C                          |
| <b>Solubility (water)</b>                           |   |
| <b>Flash point:</b>                                 | Not available.                            |
| <b>Evaporation Rate</b>                             | Not available.                            |
| <b>Flammability (solid, gas):</b>                   | Not available.                            |
| <b>Upper/lower flammability or explosive limits</b> |   |
| <b>Flammability limit – lower (%)</b>               | Not available.                            |
| <b>Flammability limit – upper (%)</b>               | Not available.                            |
| <b>Explosive limit – lower (%)</b>                  | Not available.                            |
| <b>Explosive limit – upper (%)</b>                  | Not available.                            |
| <b>Partition coefficient: (n-octanol/water)</b>     | -3.1                                      |
| <b>Auto-ignition temperature:</b>                   | Not available.                            |
| <b>Decomposition temperature:</b>                   | Not available.                            |
| <b>Viscosity:</b>                                   | Not available.                            |
| <b>Other information:</b>                           |   |
| <b>Density</b>                                      | 1.52 g/cm <sup>3</sup> estimated at 20 °C |
| <b>Explosive properties</b>                         | Not explosive.                            |
| <b>Flammability class</b>                           | Combustible IIIB estimated                |
| <b>Flash point class</b>                            | Combustible IIIB                          |
| <b>Molecular formula</b>                            | C6-H14-O6                                 |
| <b>Molecular weight</b>                             | 182.17 g/mol                              |
| <b>Oxidizing properties</b>                         | Not oxidizing.                            |
| <b>Specific gravity</b>                             | 1.52 at 20 °C                             |

## 10. Stability and reactivity

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| <b>Reactivity:</b>                         | The product is stable and non-reactive under normal conditions of use, storage and transport. |
| <b>Chemical stability:</b>                 | Stable at normal conditions.  |
| <b>Possibility of hazardous reactions:</b> | Hazardous polymerization does not occur.  |
| <b>Conditions to avoid:</b>                | Contact with incompatible materials.  |
| <b>Incompatible materials:</b>             | Strong oxidizing agents.  |
| <b>Hazardous decomposition products:</b>   | May include oxides of carbon.   |

## 11. Toxicological information

### Information on likely routes of exposure:

|   |  |
|---|--|
| <b>Ingestion:</b>   | Expected to be a low ingestion hazard.                   |
| <b>Inhalation:</b>  | Dust may irritate respiratory system.                    |
| <b>Skin Contact:</b>  | Dust or powder may irritate the skin.                    |
| <b>Eye Contact:</b>   | Dust may irritate the eyes.                              |
| <b>Symptoms related to the physical, chemical and toxicological characteristics</b> | Dusts may irritate the respiratory tract, skin and eyes. |

### Information on toxicological effects

**Acute toxicity** Not known.

| <u>Product</u> | <u>Species</u> | <u>Test Results</u> |
|----------------|----------------|---------------------|
|----------------|----------------|---------------------|

Mannitol (CAS 69-65-8)

| <u>Component</u> | <b>LD50 Oral</b>  | <b>LD50 Other</b>          |
|------------------|-------------------|----------------------------|
| <b>Oral</b>      | 22 g/kg (mouse)   | 7470 mg/kg/14 g/kg (mouse) |
| LD50             | 13500 mg/kg (Rat) | 9690 mg/kg (rat)           |

\* Estimates for product may be based on additional component data not shown.

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| <b>Skin corrosion/irritation</b>                                      | Prolonged skin contact may cause temporary irritation.   |
| <b>Serious eye damage/eye irritation</b>                              | May irritate eyes.   |
| <b>Respiratory Sensitization</b>                                      | Not a respiratory sensitizer.  |
| <b>Skin sensitization</b>   | None known.  |
| <b>Germ cell mutagenicity</b>   | No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic. |
| <b>Carcinogenicity</b>  | Not classifiable as to carcinogenicity to humans.  |
| <b>IARC Monographs. Overall Evaluation of Carcinogenicity</b>         | Not listed.  |
| <b>OSHA Specifically Regulated Substances (29 CFR 1910.1001-1096)</b> | Not regulated.   |
| <b>U.S. National Toxicology Program (NTP) Report on Carcinogens</b>   | Not listed.  |
| <b>Reproductive toxicity</b>  | This product is not expected to cause reproductive or developmental effects.                                     |
| <b>STOT – single exposure</b>   | Not classified   |
| <b>STOT – repeated exposure</b>                                       | Not classified   |
| <b>Aspiration hazard</b>  | Not an aspiration hazard.  |
| <b>Chronic effects</b>  | No data available  |

## 12. Ecological information

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| <b>Ecotoxicity:</b>  | The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment. |
| <b>Persistence and degradability:</b>  | None known.  |
| <b>Bioaccumulative potential<br/>Partition coefficient n-octanol<br/>/ water (log Kow)</b> | -3.1   |
| <b>Mobility in soil:</b>   | No data available  |
| <b>Other adverse effects:</b>  | No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.            |

## 13. Disposal considerations

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| <b>Disposal instructions</b>                       | Collect and reclaim or dispose in sealed containers at licensed waste disposal site.   |
| <b>Local disposal<br/>resulations</b>              | Dispose in accordance with all applicable regulations.   |
| <b>Hazard waste code</b>                           | The waste code should be assigned in discussion between the user, the producer and the waste disposal company.   |
| <b>Waste from<br/>residues/unused<br/>products</b> | Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions). |
| <b>Contaminated<br/>packaging</b>                  | Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.       |

## 14. Transport information

|   |                                  |
|---|----------------------------------|
| <b>DOT</b>  | Not regulated as dangerous goods |
| <b>IATA</b>   | Not regulated as dangerous goods |
| <b>IMDG</b>   | Not regulated as dangerous goods |
| <b>Transport in bulk<br/>according to Annex II of<br/>MARPOL 73/78 and the<br/>IBC Code</b> | Not applicable.                  |

## 15. Regulatory information

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| <b>U.S. Federal regulations</b>  | This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. |
| <b>TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)</b>       | Not regulated.   |
| <b>U.S. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)</b> | Not regulated  |
| <b>CERCLA Hazardous Substances List (40 CFR 302.4)</b>                     | Not listed.  |

**Superfund Amendments and Reauthorization Act of 1986 (SARA) 304**

Not regulated.

**Emergency release notification**

**Hazard Categories**      Immediate Hazard – No  
    Delayed Hazard – No  
    Fire Hazard – No  
    Pressure Hazard – No  
    Reactivity Hazard – No

**SARA 302 Extremely hazardous substance**

Not listed.

**SARA 311/312 Hazardous chemical**

No

**SARA 313 (TRI reporting)\_**

Not regulated.

**Other Federal regulations****Clean Air Act**      Not regulated**Clean Water Act**      Not regulated**Safe Drinking Water act (SDWA)**      Not regulated.**Food and Drug Administration (FDA)**      Total food additive**California Prop 65**      This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.**16. Other information, including date of preparation or last revision****Revision date**      January 3, 2023

**Disclaimer**      The statements contained herein are offered as informational data only and are believed to be correct. However, this product should be handled by persons having related technical skills, and at their own discretion and risk. Since seller has no control over the use of this product, no warranty, expressed or implied, is made and seller assumes no liability in connection with any use of this information or from contact and/or handling of this product.