

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations Revision date: 19/09/2022 Date of issue: 20/06/2011 Supersedes: 21/07/2022 Version: 3.1 CLM-1189

| SECTION 1: Identification of the subs | tance/mixture and of the company/undertaking | |
|----------------------------------------------------------------------------|----------------------------------------------|--|
| | : Substance | |
| Substance name | : D-MANNITOL (1-13C, 98%) | |
| | : 200-711-8 (Unlabeled) | |
| CAS-No. | : 132202-29-0 | |
| | : CLM-1189 | |
| Formula | : HOCH2(CHOH)4*CH2OH | |
| Synonyms | : Mannite | |
| 1.2. Relevant identified uses of the substa | ance or mixture and uses advised against | |
| 1.2.1. Relevant identified uses | | |
| Main use category | : Professional use | |
| Industrial/Professional use spec | : For professional use only | |
| 1.2.2. Uses advised against | | |
| 1.2.2. Uses advised against No additional information available | | |
| | | |
| 1.3. Details of the supplier of the safety da | ata sheet | |
| Cambridge Isotope Laboratories, Inc. 50 Frontage Road | | |
| Andover, MA 01810 | | |
| USA | | |
| USA: 1-800-322-1174 Int: 1-978-749-8000 | | |
| cilsales@isotope.com www.isotope.com | | |
| Emergency telephone number | | |
| Emergency numbers: | | |
| Chemtrec: 1-800-424-9300 (24 hours) | | |
| International: 1-703-741-5970 (24 hours) | | |
| SECTION 2: Hazards identification | | |
| 2.1. Classification of the substance or mix | xture | |
| Classification according to Regulation (EC) No | . 1272/2008 [CLP] | |
| Not classified | | |
| | | |
| Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD] | | |
| Not classified | | |
| GHS-US classification | | |
| Not classified | | |
| | | |
| Adverse physicochemical, human health and environmental effects | | |
| No additional information available | | |
| | | |

2.2. Label elements

Labeling according to Regulation (EC) No. 1272/2008 [CLP] No labeling applicable

GHS-US labeling

No labeling applicable

2.3. **Other hazards**

No additional information available

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| SECTION 3: Composition/Information on ingredients | | | |
|---------------------------------------------------|---------------------------------------------------------|-----|-----------------------------------------------------------------------|
| 3.1. Substances | | | |
| Name | Product identifier | % | Classification according to Directive 67/548/EEC |
| D-MANNITOL (1-13C, 98%) | (CAS-No.) 132202-29-0 (EC-No.) 200-711-8 (Unlabeled) | 100 | Not classified |
| Name | Product identifier | % | Classification according to Regulation (EC) No. 1272/2008 [CLP] |
| D-MANNITOL (1-13C, 98%) | (CAS-No.) 132202-29-0 (EC-No.) 200-711-8 (Unlabeled) | 100 | Not classified |

Full text of R- and H- phrases: see section 16

| Name | Product identifier | % | GHS-US classification |
|-----------------------------------------------|-----------------------|-----|-----------------------|
| D-MANNITOL (1-13C, 98%) (Main constituent) | (CAS-No.) 132202-29-0 | 100 | Not classified |

Full text of H-phrases: see section 16

3.2. **Mixtures** Not applicable **SECTION 4: First aid measures** 4.1. **Description of first aid measures** : Move out of dangerous area. Consult a physician and show this safety data sheet. First-aid measures general : If breathed in, move person to fresh air. If not breathing, give artificial respiration. Consult a First-aid measures after inhalation physician. First-aid measures after skin contact : Wash off with soap and plenty of water. First-aid measures after eye contact : Flush eyes with water as a precaution. First-aid measures after ingestion : Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician. 4.2. Most important symptoms and effects, both acute and delayed Symptoms/effects : Not available. Symptoms/effects after inhalation : May be harmful if inhaled. May cause respiratory tract irritation. Symptoms/effects after skin contact : May be harmful if absorbed through skin. May cause skin irritation. Symptoms/effects after eye contact : May cause eye irritation. Symptoms/effects after ingestion : May be harmful if swallowed. 4.3. Indication of any immediate medical attention and special treatment needed No additional information available SECTION 5: Firefighting measures 5.1. **Extinguishing media** Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide. 52 Special hazards arising from the substance or mixture No additional information available Advice for firefighters 5.3. **Firefighting instructions** : Wear self contained breathing apparatus for fire fighting if necessary. Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. SECTION 6: Accidental release measures 6.1. Personal precautions, protective equipment and emergency procedures 6.1.1. For non-emergency personnel Emergency procedures : Avoid dust formation. Avoid breathing vapors, mist, or gas. 6.1.2. For emergency responders No additional information available 6.2. **Environmental precautions** No special environmental precautions required.

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|-----------|--------------------------------------|--------------------------------------------------------------------------|
| 6.3. | Methods and material for containment | nt and cleaning up |
| For conta | ainment | : Sweep up and shovel. Keep in suitable, closed containers for disposal. |

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| 6.4. Reference to other sections | |
| No additional information available | |
| SECTION 7: Handling and storage | |
| 7.1. Precautions for safe handling | |
| Additional hazards when processed | Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs. Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection. |
| Hygiene measures | : Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. |
| 7.2. Conditions for safe storage, inclu | ding any incompatibilities |
| Technical measures | : Keep container tightly closed in a dry and well-ventilated place. |
| Storage conditions | : Store at room temperature away from light and moisture. |
| 7.3. Specific end use(s) | |
| No additional information available | |
| SECTION 8: Exposure controls/per | sonal protection |
| 8.1. Control parameters | |
| No additional information available | |
| | |
| 8.2. Exposure controls Personal protective equipment | : Gloves. Protective clothing. Protective goggles. Self-contained breathing apparatus. |
| | |
| Hand protection | : Wear suitable protective clothing and gloves. |
| Eye protection | : Safety glasses with side-shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH or EN 166. |
| Skin and body protection | : Choose body protection according to the amount and concentration of the dangerous substance at the work place Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. |
| Respiratory protection | : When appropriate, use NIOSH/CEN approved respirator. |
| SECTION 9: Physical and chemica | properties |
| 9.1. Information on basic physical and | |
| Physical state | : Solid |
| Appearance | : Powder |
| Molecular mass | : 183.16 g/mol (Labeled) |
| Color | : White |
| Odor | : No data available |
| Odor threshold | : No data available |
| pH | : 5.0 - 6.5 at 182 g/l at 25 °C (77 °F) |
| Relative evaporation rate (butyl acetate=1) | : No data available |
| Malting againt | |

| Relative evaporation rate (butyl acetate=1) | : No data available |
|---------------------------------------------|--------------------------------------------------------|
| Melting point | : 167 - 170 °C (333 - 338 °F) |
| Freezing point | : No data available |
| Boiling point | : No data available |
| Flash point | : No data available |
| Auto-ignition temperature | : No data available |
| Decomposition temperature | : No data available |
| Flammability (solid, gas) | : No data available |
| Vapor pressure | : No data available |
| Relative vapor density at 20 °C | : No data available |
| Relative density | : No data available |
| Solubility | : Water: 182 g/l at 20 °C (68 °F) - completely soluble |
| Log Pow | : No data available |
| | |

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| 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 | |
| Explosion limits | : No data available | |
| 9.2. Other information | | |
| No additional information available | | |
| SECTION 10: Stability and reactivi | ty | |
| 10.1. Reactivity | | |
| No additional information available | | |
| 10.2. Chemical stability | | |
| Five years after receipt if stored as stated in "Storage" section. Re-QC after 5 years. | | |
| 10.3. Possibility of hazardous reaction | S | |
| No additional information available | | |
| 10.4. Conditions to avoid | | |
| No additional information available | | |
| 10.5. Incompatible materials | | |
| Strong oxidizing agents. | | |
| 10.6. Hazardous decomposition products | | |
| Fformed under fire conditions: Carbon oxides. | | |
| | | |

SECTION 11: Toxicological information 11.1. Information on toxicological effects : Not classified Acute toxicity D-MANNITOL (1-13C, 98%) (132202-29-0) LD50 oral rat 13500 mg/kg Skin corrosion/irritation : Not classified pH: 5.0 - 6.5 at 182 g/l at 25 °C (77 °F) Serious eye damage/irritation : Not classified pH: 5.0 - 6.5 at 182 g/l at 25 °C (77 °F) 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 : Not classified exposure : Not classified Aspiration hazard Potential Adverse human health effects and This information is based on our current knowledge and is intended to describe the product for symptoms the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product. Symptoms/effects after inhalation : May be harmful if inhaled. May cause respiratory tract irritation. Symptoms/effects after skin contact : May be harmful if absorbed through skin. May cause skin irritation. Symptoms/effects after eye contact : May cause eye irritation.

Symptoms/effects after ingestion : May be harmful if swallowed.

| ON 12: Ecological information | |
|-------------------------------|--|
| Toxicity | |
| onal information available | |

12.2. Persistence and degradability

No additional information available

SECTIO 12.1. No additi

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| 12.3. Bioaccumulative potential | |
| No additional information available | |
| 12.4. Mobility in soil | |
| No additional information available | |
| 12.5. Results of PBT and vPvB assessme | ent |
| No additional information available | |
| 12.6. Other adverse effects | |
| No additional information available | |
| SECTION 13: Disposal consideration | |
| | 15 |
| 13.1. Waste treatment methods Regional legislation (waste) | : Waste materials should be disposed of under conditions which meet Federal, State, and local |
| Regional registation (waste) | environmental control regulations. |
| Product/Packaging disposal recommendations | : Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. |
| Ecology - waste materials | : Dispose of as unused product. |
| SECTION 14: Transport information | |
| In accordance with ADR / RID / IMDG / IATA / A | DN |
| 14.1. UN number | |
| Not applicable | |
| 44.0 UN mener obiening neme | |
| 14.2. UN proper shipping name Not applicable Image: Comparison of the second | |
| | |
| 14.3. Additional information | |
| Other information | : No supplementary information available. |
| Special transport precautions | : Not dangerous goods. |
| Special transport precautions | . Not dangerous goods. |
| Overland transport | |
| No additional information available | |
| | |
| Transport by sea | |
| No additional information available | |
| Air transport | |
| No additional information available | |
| | |
| 14.4. Environmental hazards | |
| Other information | : No supplementary information available. |
| 14.5. Special precautions for user | |
| Special transport precautions | : Not dangerous goods. |
| | |
| 14.6. Transport in bulk according to Ann | ex II of MARPOL 73/78 and the IBC Code |
| Not applicable | |

Not applicable

| SECTION 15: Regulatory information | |
|-------------------------------------------------------|-----------------------------------------------------------------------------|
| 15.1. US Federal regulations | |
| D-MANNITOL (1-13C, 98%) (132202-29-0) | |
| SARA Section 302 Threshold Planning Quantity (TPQ) | Not subject to reporting requirements of the United States SARA Section 302 |
| SARA Section 313 - Emission Reporting | Not subject to reporting requirements of the United States SARA Section 313 |

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15.2. International regulations

CANADA

D-MANNITOL (1-13C, 98%) (132202-29-0)

Listed on the Canadian DSL (Domestic Substances List)

15.2.1. **National regulations**

No additional information available

15.3. US State regulations

| D-MANNITOL (1-13C, 98%)(132202-29-0) | | |
|---------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|--|
| U.S California - Proposition 65 - Carcinogens List | No | |
| U.S California - Proposition 65 - Developmental Toxicity | No | |
| U.S California - Proposition 65 - Reproductive Toxicity - Female | No | |
| U.S California - Proposition 65 - Reproductive Toxicity - Male | No | |
| State or local regulations | RTK - U.S Pennsylvania - RTK (Right to Know) List RTK - U.S New Jersey - Right to Know Hazardous Substance List | |

SECTION 16: Other information

| NFPA health hazard | : 0 - Materials that, under emergency conditions, would offer no hazard beyond that of ordinary combustible materials. |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NFPA fire hazard | O - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand. |
| NFPA reactivity | : 0 - Material that in themselves are normally stable, even under fire conditions. |
| Hazard Rating | |
| Health | : 0 Minimal Hazard - No significant risk to health |
| Flammability | : 0 Minimal Hazard |
| Physical | : 0 Minimal Hazard |

CIL Substance SDS

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product