Basekim
Chemical Production Co.Ltd.

Material Safety Data Sheet (MSDS) — Monohydrate Dextrose Powder

Product Name: Monohydrate Dextrose Powder (also D-Glucose Monohydrate)
Supplier / Manufacturer: Basekim Chemical Production Co., UAE / Turkey
Intended Use: Food / Beverage ingredient, pharmaceutical / medical applications, nutritional supplement, animal feed, cosmetic formulations.

1) Identification

- **Synonyms:** Dextrose Monohydrate, Glucose Monohydrate, Corn sugar monohydrate
- **Chemical Formula:** $C_6H_{12}O_6 \cdot H_2O$
- **CAS Number:** 14431-43-7 (or per your specific grade)
- **Molecular Weight:** ~198.17 g/mol

2) Hazard Identification

- Not classified as hazardous under many GHS hazard criteria for the solid powder form.
- **Potential hazards:**
  - Dust generation: inhalation of high concentrations of dust may irritate respiratory tract.
  - Eye irritation: particles may irritate eyes mechanically.
  - Skin: generally non-irritating; prolonged contact may cause mild irritation in sensitive individuals.

3) Composition / Information on Ingredients

Component	Purity (%)	Notes
Dextrose Monohydrate	≥ 99% (or as specified)	Food grade / pharma grade per specification
Impurities (trace sugars, moisture, ash)	< 1%	As per your certificate of analysis

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4) First Aid Measures

- **Inhalation:** Move to fresh air. If breathing becomes difficult or irritation persists, seek medical attention.
- **Skin Contact:** Brush off dry powder. Wash skin with soap and water if irritation appears.
- **Eye Contact:** Rinse with plenty of water for at least 15 minutes. If particles remain, continue rinsing. Seek medical attention if irritation continues.
- **Ingestion:** Safe under normal use. If large amounts swallowed and discomfort occurs, rinse mouth and drink water; seek medical advice if needed.

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5) Fire-Fighting Measures

- **Fire risk:** Solid dextrose monohydrate is not flammable in itself, but dust can pose combustible dust hazard under certain conditions.
- **Suitable extinguishing media:** Water spray, foam, dry chemical powder, CO_2.
- **Unsuitable media:** None specific.
- **Hazards from combustion:** Burning may produce carbon monoxide (CO), carbon dioxide (CO_2), water vapour, other minor products depending on combustion completeness.
- **Protective equipment:** Use full firefighting gear, including self-contained breathing apparatus in enclosed areas.

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6) Accidental Release Measures

- Avoid dust formation.
- Sweep up or vacuum spill carefully; avoid raising dust.
- Place into clean containers for reuse or disposal.
- Wash area with water to remove residue if safe.

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7) Handling and Storage

- **Handling:** Minimize dust generation; use local exhaust ventilation or dust collection; avoid inhaling dust. Use gloves / protective gear if needed. Maintain good hygiene.
- **Storage:** Store in cool, dry, well-ventilated area; protect from moisture; keep container tightly closed. Avoid exposure to high heat.

8) Exposure Controls / Personal Protection

- **Occupational Exposure Limits:** Consider treating dust as "nuisance dust" or "particulates not otherwise regulated" under local regulation (e.g. 10 mg/m³ for inhalable dust, etc.).
- **Engineering Controls:** Use dust collection, ventilation.
- **PPE:**
  - Eye protection: safety glasses or goggles if dust risk.
  - Skin protection: gloves if contact is likely; protective clothing.
  - Respiratory protection: dust mask or respirator if dust levels high.

9) Physical & Chemical Properties

Property	Typical Value / Range*
Appearance	White crystalline / powder solid
Odor	Odorless or nearly so
Solubility	Very soluble in water
Melting Point	~146 °C (some references)
Boiling Point	Decomposes before boiling
Bulk Density	Depends on packaging; e.g. ~30-40 lb/ft³
pH (in solution)	Slightly acidic or neutral (varies with concentration)
Moisture content	Low; as per grade spec

10) Stability & Reactivity

- **Stability:** Stable under normal temperatures and storage conditions.
- **Conditions to avoid:** Excessive heat, moisture (may cake or degrade), dust cloud ignition sources.
- **Incompatible materials:** Strong oxidizers.
- **Hazardous decomposition products:** CO, CO_2 under combustion; possible caramelization / carbonization under high heating.

11) Toxicological Information

- **Acute Toxicity:** Low; high oral LD_{50} in rodents (non-hazardous under usual exposure).
- **Skin / Eye:** Mild irritation possible.

- **Inhalation:** Dust inhalation can irritate respiratory tract.
- **Chronic Exposure:** Not known to cause severe effects under typical dietary / industrial exposures.

12) Ecological Information

- Biodegradable; dextrose is a sugar.
- Low risk to aquatic organisms except in extremely high concentrations (which may reduce oxygen levels by promoting biological activity).
- Soluble, mobile in water.

13) Disposal Considerations

- Dispose in accordance with local regulations.
- Solid waste may go to normal solid waste or composting when permissible.
- Avoid release into waterways in large quantities.

14) Transport Information

- Normally **not regulated** as a hazardous material.
- Transport as non-dangerous goods under normal packing.

15) Regulatory Information

- Complies with food / pharmaceutical / regulatory standards for dextrose monohydrate.
- Labeling as food / supplement as required.
- Regulatory status: non-hazardous substance in many jurisdictions.

16) Other Information

- **Revision Date:** [Insert date]
- **Prepared by:** Basekim Technical / Safety Team

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- **Disclaimer:** Information based on typical dextrose monohydrate properties. Your batch may differ; always refer to your Certificate of Analysis (COA) for exact values.

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