

Material Safety Data Sheet (MSDS)

Product Name: Sucrose Medium

MSDS Generate Date: 20-05-2017

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Supplier:

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1. Identification of the Substance and Company

Product Name: Sucrose Medium

Chemical Name: Sucrose

Synonyms: Granulated Sucrose, Medium Crystal Sugar, Cane Sugar, Beet Sugar, Crystalline Sugar

CAS Number: 57-50-1

Molecular Formula: $C_{12}H_{22}O_{11}$

Molecular Weight: 342.30 g/mol

Recommended Use:

Pharmaceutical excipient, food ingredient, nutraceutical formulations, confectionery, beverages, tablet manufacturing, syrups, and dietary products.

2. Hazard Identification

GHS Classification: Sucrose Medium is not classified as hazardous according to the Globally Harmonized System (GHS).

Potential Health Effects:

Inhalation: Dust generated during handling may cause temporary irritation of the nose, throat, and upper respiratory tract.

Skin Contact: Prolonged or repeated contact may cause mild skin dryness or irritation.

Eye Contact: Dust particles may cause temporary redness, watering, and mechanical irritation.

Ingestion: Low toxicity under normal conditions of use. Excessive consumption may cause temporary gastrointestinal discomfort.

Physical Hazards: Although coarse crystals generate less dust than powdered sucrose, accumulated sugar dust may still present a combustible dust hazard under certain processing conditions.

Environmental Hazards: No significant environmental hazards are expected.

Precautionary Statements:

- Minimize dust generation.
- Avoid inhaling dust.
- Maintain good housekeeping.
- Keep away from ignition sources where sugar dust may accumulate.
- Wash hands thoroughly after handling.

3. Composition / Information on Ingredients

Chemical Name: Sucrose

CAS Number: 57-50-1

Molecular Formula: $C_{12}H_{22}O_{11}$

Chemical Family: Carbohydrate (Disaccharide)

Purity: Typically 99.5% minimum (depending on applicable specification)

Sucrose Medium consists primarily of highly purified crystalline sucrose manufactured from sugar cane or sugar beet. Trace moisture and naturally occurring impurities are maintained within applicable food or pharmaceutical quality specifications.

4. First Aid Measures

Inhalation: Move the affected person to fresh air. Seek medical attention if respiratory irritation persists.

Skin Contact: Wash thoroughly with soap and water.

Eye Contact: Flush eyes immediately with clean water for at least 15 minutes. Remove contact lenses if present. Seek medical attention if irritation continues.

Ingestion: Rinse mouth with water. Drink water if discomfort develops. Seek medical advice if excessive quantities are consumed and symptoms occur.

Most Important Symptoms: Mild respiratory irritation, Mild eye irritation, Temporary gastrointestinal discomfort.

5. Fire Fighting Measures

Suitable Extinguishing Media: Water spray, Carbon dioxide (CO₂), Dry chemical powder, Foam.

Unsuitable Extinguishing Media: Avoid high-pressure water streams that may disperse combustible dust.

Fire Hazards: Sucrose is combustible. Fine sugar dust generated during handling or processing may create explosive dust-air mixtures.

Hazardous Combustion Products: Carbon monoxide, carbon dioxide, and irritating organic fumes.

Protective Equipment: Wear self-contained breathing apparatus (SCBA) and full protective clothing.

6. Accidental Release Measures

Personal Precautions:

- Avoid generating dust.
- Remove ignition sources.
- Ensure adequate ventilation.
- Wear appropriate personal protective equipment.

Environmental Precautions: Prevent large quantities from entering drains and waterways.

Cleanup Methods: Sweep or vacuum spilled material carefully and place it into suitable containers for reuse or disposal. Avoid creating airborne dust.

7. Handling and Storage

Handling

- Avoid excessive dust formation.
- Use appropriate ventilation where dust may be generated.
- Maintain good industrial hygiene.
- Keep away from ignition sources.

Storage

Store in tightly closed containers in a cool, dry, clean, and well-ventilated area.

Protect from moisture, excessive humidity, contamination, and direct sunlight.

8. Exposure Controls / Personal Protection

- **Engineering Controls:** Provide adequate ventilation and dust collection systems where required.

Personal Protective Equipment

- **Respiratory Protection:** Dust respirator where excessive airborne dust exists.
- **Eye Protection:** Safety glasses or chemical safety goggles.
- **Hand Protection:** Protective gloves.
- **Skin Protection:** Suitable protective clothing where required.

9. Physical and Chemical Properties

Appearance: White crystalline coarse granules

Odor: Odorless

Taste: Sweet

Physical State: Solid crystalline material

pH (10% Solution): Approximately 6.0–7.5

Melting Point: Approximately 186°C (decomposes)

Boiling Point: Not applicable

Bulk Density: Varies according to crystal size

Specific Gravity: Approximately 1.59

Solubility: Freely soluble in water; practically insoluble in ethanol

Flash Point: Not applicable

Auto-Ignition Temperature: Approximately 350°C (dust cloud)

Explosive Properties: Fine dust generated during processing may form explosive mixtures with air

Oxidizing Properties: None

Vapor Pressure: Not applicable

Vapor Density: Not applicable

10. Stability and Reactivity

Reactivity: Stable under recommended storage conditions.

Chemical Stability: Stable during normal handling and storage.

Conditions to Avoid: Excessive heat, Moisture, Open flames, Dust accumulation.

Incompatible Materials: Strong oxidizing agents.

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide, and irritating combustion products.

11. Toxicological Information

Acute Toxicity: Low acute toxicity.

Skin Irritation: May cause slight irritation after prolonged contact.

Eye Irritation: Dust may cause temporary mechanical irritation.

Respiratory Effects: Dust may irritate the upper respiratory tract.

Carcinogenicity: Not classified as carcinogenic.

Mutagenicity: No known mutagenic effects.

Reproductive Toxicity: No known reproductive hazards.

12. Ecological Information

Ecotoxicity: No significant environmental toxicity is expected.

Persistence and Degradability: Readily biodegradable.

Bioaccumulative Potential: Not expected to bioaccumulate.

Mobility: Highly soluble in water.

13. Disposal Considerations

Dispose of unused product and contaminated packaging according to applicable local, state, and national regulations.

Avoid unnecessary release into drains, sewers, or natural waterways.

14. Transport Information

Sucrose Medium is not classified as dangerous goods under ADR/RID, IMDG, IATA, or other international transportation regulations. The product is stable, non-toxic, and non-corrosive during normal transport. Although the coarse crystalline form generates significantly less dust than powdered sugar, dust may still be produced during handling and bulk transfer. Appropriate precautions should therefore be taken to prevent dust accumulation, moisture absorption, contamination, and package damage.

UN Number: Not regulated.

UN Proper Shipping Name: Not regulated.

Transport Hazard Class: Not regulated.

Packing Group: Not regulated.

Environmental Hazard: Not classified as environmentally hazardous.

Marine Pollutant: No.

Road Transport (ADR/RID): The product is not regulated as dangerous goods for road or rail transportation. It should be transported in clean, dry, tightly sealed bags, fiber drums, HDPE containers, or other approved food-grade packaging. Protect packages from rain, excessive humidity, contamination, and physical damage during loading, unloading, and transit.

Sea Transport (IMDG): Sucrose Medium is not regulated under the International Maritime Dangerous Goods (IMDG) Code. It is not considered a marine pollutant and requires no special hazard labels. Containers should remain dry, tightly closed, and protected from seawater, moisture, and contamination throughout shipment.

Air Transport (IATA): The product is not regulated as dangerous goods under International Air Transport Association (IATA) regulations. Standard commercial packaging is acceptable provided the containers are properly sealed and protected from moisture and mechanical damage.

Special Transport Precautions:

- Transport only in clean, dry, tightly sealed containers.
- Protect from moisture, rain, excessive humidity, and direct sunlight.
- Prevent contamination during loading and unloading.

- Minimize dust generation during bulk handling.
- Keep away from strong oxidizing agents and ignition sources where dust accumulation may occur.
- Secure cargo adequately to prevent shifting during transportation.
- Follow good housekeeping practices to reduce sugar dust accumulation in transport vehicles and storage areas.

Transport in Bulk According to MARPOL Annex II and IBC Code: Not applicable.

Emergency Transport Information: In the event of accidental spillage during transportation, isolate the affected area if necessary and eliminate potential ignition sources where sugar dust may be present. Sweep or vacuum the spilled material carefully into suitable containers for recovery or disposal. Avoid generating excessive airborne dust. Prevent the material from entering drains, sewers, or waterways. Personnel performing cleanup should wear appropriate personal protective equipment, including respiratory protection where dust concentrations are elevated.

15. Regulatory Information

- Sucrose Medium should be handled in accordance with applicable occupational safety, food safety, pharmaceutical, environmental, and chemical handling regulations.
- The product is not classified as hazardous according to the Globally Harmonized System (GHS).

16. Other Information

The information contained in this Material Safety Data Sheet is based on current scientific knowledge and industrial experience. It is intended to provide guidance for the safe handling, storage, transportation, and disposal of the product. It does not constitute a warranty of product characteristics or suitability for any particular application. Users are responsible for ensuring compliance with all applicable laws and regulations.

- **MSDS Generate Date:** 20-05-2017
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- **Website:** www.rawpharmabiz.com
- MSDS are based on the manufacturer's provided information.