

Material Safety Data Sheet (MSDS)

Product Name: Colloidal Silicon Dioxide USP Grade

MSDS Generate Date: 20-05-2017

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Supplier:

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1. Identification of the Substance/Preparation and of the Company

Product Name: Colloidal Silicon Dioxide USP Grade

Synonyms: Amorphous Silica, Fumed Silica, Silica Gel (non-crystalline)

Chemical Formula: SiO_2

Molecular Weight: 60.08 g/mol

Intended Use: Used as an anti-caking agent, glidant, and viscosity-increasing agent in pharmaceutical and food industries.

2. Hazard Identification

Classification: Not classified as hazardous according to GHS.

Physical State: Fine amorphous white powder

Hazard Statements:

- May cause mechanical irritation to eyes or respiratory tract.
- Inhalation of dust may cause dryness or mild discomfort.

Precautionary Statements:

- Avoid generating dust.

- Use adequate ventilation.
- Wear protective clothing and eye protection.

Emergency Overview: Non-toxic, non-flammable, chemically stable under normal conditions.

3. Composition / Information on Ingredients

Chemical Name: Silicon Dioxide (Amorphous)

CAS Number: 7631-86-9

Purity: ≥99.0%

Impurities: Trace moisture and oxides of other elements (within USP limits).

4. First Aid Measures

Inhalation: Move to fresh air. Seek medical attention if irritation persists.

Skin Contact: Wash with soap and water. No known irritation under normal use.

Eye Contact: Rinse immediately with plenty of water. Seek medical attention if irritation continues.

Ingestion: Rinse mouth with water. Non-toxic but seek medical advice if large quantities are ingested.

5. Fire-Fighting Measures

Flammability: Non-flammable.

Suitable Extinguishing Media: Use appropriate extinguishing media for surrounding fire.

Special Hazards: No known hazardous decomposition products.

Protective Equipment: Firefighters should wear protective gear and a self-contained breathing apparatus if dust is present.

6. Accidental Release Measures

Personal Precautions: Avoid creating dust. Use personal protective equipment.

Environmental Precautions: Prevent contamination of soil and water.

Clean-up Methods: Sweep or vacuum the material and place in a closed container for disposal.

7. Handling and Storage

Handling: Avoid dust formation. Use in well-ventilated areas.

Storage: Store in a tightly closed container in a cool, dry, and well-ventilated place.

Incompatibilities: Strong acids, bases, and hydrofluoric acid.

8. Exposure Controls / Personal Protection

Exposure Limits:

- OSHA PEL: 6 mg/m³ (total dust)
- ACGIH TLV: 10 mg/m³ (inhalable fraction)

Engineering Controls: Use local exhaust ventilation.

Personal Protective Equipment (PPE):

- **Eye Protection:** Safety goggles
 - **Skin Protection:** Protective gloves
 - **Respiratory Protection:** Dust mask if dust levels are high
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9. Physical and Chemical Properties

Appearance: White, odorless, fine powder

Odor: Odorless

pH (4% dispersion): 3.5 – 5.5

Melting Point: >1600°C

Boiling Point: Not applicable

Solubility: Insoluble in water

Density: 2.2 g/cm³

Bulk Density: 30–50 g/L

Flash Point: Not applicable

Vapor Pressure: Not applicable

10. Stability and Reactivity

Stability: Stable under normal storage and handling conditions.

Incompatible Materials: Hydrofluoric acid reacts to form silicon tetrafluoride gas.

Hazardous Decomposition Products: None under normal use.

Polymerization: Will not occur.

11. Toxicological Information

Acute Toxicity: Non-toxic.

Inhalation: May cause mechanical irritation if dust levels are high.

Skin / Eye Contact: Mild irritation possible.

Chronic Effects: No known chronic toxicity; non-carcinogenic (amorphous form).

Carcinogenicity: Not listed by IARC, NTP, or OSHA.

LD50 (oral, rat): >5000 mg/kg

12. Ecological Information

Ecotoxicity: Non-toxic to aquatic and terrestrial organisms.

Persistence & Degradability: Inorganic material; not biodegradable.

Bioaccumulation: None expected.

Mobility in Soil: Negligible.

Other Adverse Effects: None known.

13. Disposal Considerations

Waste Disposal Method: Dispose of in accordance with local regulations.

Packaging Disposal: Can be reused or recycled if uncontaminated.

Waste Classification: Non-hazardous solid waste.

14. Transport Information (Detailed)

UN Number: Not applicable

UN Proper Shipping Name: Not regulated as a dangerous good

Transport Hazard Class: Not classified as hazardous

Packing Group: Not applicable

Environmental Hazards: None known

Transport in Bulk (IMDG, ADR, IATA): Not regulated

Special Precautions:

- Avoid generation of airborne dust during handling and transport.
- Ensure containers are tightly sealed to prevent moisture absorption.
- Transport in clean, dry containers and protect from mechanical shock.
- Avoid exposure to strong acids or bases during transit.
- No special labeling or placard required under transport regulations (ADR/RID/IMDG/IATA).

Regulatory Information:

- **IATA (Air Transport):** Non-dangerous goods.
- **IMDG (Sea Transport):** Not classified as marine pollutant.
- **ADR/RID (Road/Rail Transport):** Non-hazardous substance.

15. Regulatory Information

Regulations:

- Complies with USP, EP, and FCC specifications.
- Not classified as hazardous under EU Regulation (EC) No. 1272/2008 (CLP).
- Not listed on any hazardous substances inventory.
Labeling Requirements: None required for non-hazardous materials.

16. Other Information

Abbreviations:

- GHS: Globally Harmonized System
- OSHA: Occupational Safety and Health Administration
- ACGIH: American Conference of Governmental Industrial Hygienists
- IATA: International Air Transport Association
- IMDG: International Maritime Dangerous Goods

Disclaimer:

The information provided in this MSDS is believed to be accurate and reliable to the best of our knowledge as of the revision date.

- **MSDS Generate Date:** 20-05-2017
- **Revision Date:** 30-12-2024
- **Website:** www.rawpharmabiz.com
- MSDS are based on the manufacturer's provided information.