

Material Safety Data Sheet (MSDS)

Product Name: Zinc Stearate Technical Grade

MSDS Generate Date: 20-05-2017

Revision Date: 30-12-2024

Supplier:

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1. Identification of the Substance and Company

Product Name: Zinc Stearate Technical Grade

Chemical Name: Zinc Stearate

Synonyms: Zinc Distearate, Zinc Octadecanoate, Stearic Acid Zinc Salt

CAS Number: 557-05-1

Molecular Formula: $C_{36}H_{70}O_4Zn$

Molecular Weight: 632.33 g/mol

Recommended Use:

Lubricant, mold release agent, anti-caking agent, waterproofing agent, processing aid for plastics and rubber, paint additive, powder metallurgy, coatings, cosmetics, and other industrial applications.

2. Hazard Identification

GHS Classification: Zinc Stearate Technical Grade is not classified as hazardous under the Globally Harmonized System (GHS) under normal conditions of use.

Potential Health Effects:

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

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

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

Ingestion: Low acute toxicity. Ingestion of large quantities may cause mild gastrointestinal discomfort.

Physical Hazards: Fine dust may form combustible dust-air mixtures if dispersed in sufficient concentrations in enclosed areas.

Environmental Hazards: Avoid uncontrolled release of large quantities into the environment.

Precautionary Statements:

- Avoid breathing dust.
- Avoid generating excessive dust.
- Use adequate ventilation.
- Wear appropriate eye protection.
- Wash thoroughly after handling.

3. Composition / Information on Ingredients

Chemical Name: Zinc Stearate

CAS Number: 557-05-1

Molecular Formula: $C_{36}H_{70}O_4Zn$

Chemical Family: Metallic Soap

Purity: Typically 98.0% minimum (Technical Grade)

The product consists primarily of zinc stearate with trace quantities of moisture and manufacturing impurities maintained within technical grade specifications.

4. First Aid Measures

Inhalation: Move the affected person to fresh air. Obtain medical attention if irritation or breathing difficulty persists.

Skin Contact: Wash thoroughly with soap and water. Remove contaminated clothing.

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

Ingestion: Rinse mouth thoroughly with water. Drink water if conscious. Seek medical advice if large quantities have been ingested.

Most Important Symptoms:

- Mild respiratory irritation
- Temporary eye irritation
- Mild skin irritation
- Gastrointestinal discomfort

5. Fire Fighting Measures

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

Unsuitable Extinguishing Media: Do not use high-pressure water jets that may disperse combustible dust.

Fire Hazards: The material is combustible under fire conditions. Fine dust may present a dust explosion hazard.

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

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

6. Accidental Release Measures

Personal Precautions:

- Avoid dust formation.
- Ensure adequate ventilation.
- Wear suitable personal protective equipment.
- Avoid breathing airborne dust.

Environmental Precautions: Prevent large quantities from entering drains, sewers, or waterways.

Cleanup Methods: Sweep or vacuum carefully while minimizing dust generation. Collect material into suitable containers for reuse or disposal.

7. Handling and Storage

Handling

- Avoid breathing dust.
- Prevent excessive dust generation.

- Avoid contact with eyes.
- Maintain good industrial hygiene.
- Wash hands thoroughly after handling.

Storage

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

Protect from moisture, direct sunlight, excessive heat, and incompatible materials such as strong oxidizing agents.

8. Exposure Controls / Personal Protection

- **Engineering Controls:** Provide adequate local exhaust ventilation where dust is generated.

Personal Protective Equipment

- **Respiratory Protection:** Approved particulate respirator where airborne dust concentrations exceed recommended exposure limits.
- **Eye Protection:** Safety glasses or chemical safety goggles.
- **Hand Protection:** Chemical-resistant protective gloves.
- **Skin Protection:** Protective clothing suitable for industrial handling.

9. Physical and Chemical Properties

Appearance: White to off-white fine powder

Odor: Slight fatty odor or odorless

Physical State: Solid powder

pH: Not applicable (insoluble in water)

Melting Point: Approximately 120–130°C (softening); decomposes upon further heating

Boiling Point: Not applicable

Specific Gravity: Approximately 1.09–1.12

Bulk Density: Varies according to grade

Solubility: Insoluble in water; slightly soluble in hot aromatic solvents

Flash Point: Not applicable

Auto-Ignition Temperature: Not determined

Explosive Properties: Fine dust may form combustible 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, Open flames, Moisture, Dust accumulation.

Incompatible Materials: Strong oxidizing agents, strong acids, and strong alkalis.

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide, zinc oxide fumes, and irritating organic vapors.

11. Toxicological Information

Acute Toxicity: Low acute toxicity under normal conditions of use.

Skin Irritation: May cause mild irritation after prolonged exposure.

Eye Irritation: Dust may cause temporary mechanical irritation.

Respiratory Effects: Dust may irritate the respiratory tract.

Carcinogenicity: Not classified as carcinogenic.

Mutagenicity: No known mutagenic effects.

Reproductive Toxicity: No known reproductive hazards.

12. Ecological Information

Ecotoxicity: Large releases should be avoided as zinc compounds may be harmful to aquatic organisms in high concentrations.

Persistence and Degradability: Expected to degrade slowly under environmental conditions.

Bioaccumulative Potential: Not expected to significantly bioaccumulate.

Mobility: Practically insoluble in water with low mobility in soil.

13. Disposal Considerations

Dispose of unused product, contaminated absorbents, and packaging in accordance with applicable local, regional, and national regulations.

Avoid release into drains, surface water, or soil.

14. Transport Information

Zinc Stearate Technical Grade is not classified as dangerous goods under ADR/RID, IMDG, IATA, or other international transportation regulations. The product is stable, non-corrosive, and presents no significant transport hazards when packaged and handled correctly. However, as a fine powder, precautions should be taken to minimize dust generation, prevent contamination, avoid moisture absorption, and protect packaging from physical damage during transportation.

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 for transport.

Marine Pollutant: No.

Road Transport (ADR/RID): Zinc Stearate Technical Grade is not regulated as dangerous goods for road or rail transport. Transport the material in tightly sealed HDPE bags, fiber drums, laminated bags, or other suitable industrial containers. Protect the packaging from rain, excessive humidity, contamination, and mechanical damage throughout loading, unloading, and transit.

Sea Transport (IMDG): The product is not regulated under the International Maritime Dangerous Goods (IMDG) Code and is not classified as a marine pollutant. Containers should remain 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 remain securely sealed and protected against physical damage and moisture.

Special Transport Precautions:

- Transport only in clean, dry, tightly sealed containers.
- Protect from rain, excessive humidity, and direct sunlight.
- Prevent damage to packaging during handling.
- Minimize dust generation during loading and unloading.
- Keep away from strong oxidizing agents and incompatible chemicals.
- Secure cargo properly to prevent movement during transportation.
- Follow good housekeeping practices to prevent dust accumulation.

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

Emergency Transport Information: If accidental spillage occurs during transportation, isolate the affected area where necessary and avoid generating airborne dust. Sweep or vacuum the spilled material into suitable containers for recovery or disposal. Prevent entry into drains, sewers, and natural waterways. Personnel involved in cleanup should wear suitable respiratory protection, eye protection, gloves, and protective clothing. Dispose of collected material in accordance with applicable environmental regulations.

15. Regulatory Information

- Zinc Stearate Technical Grade should be handled in accordance with applicable occupational safety, environmental protection, and chemical handling regulations.
- The product is not classified as hazardous under the Globally Harmonized System (GHS) under normal conditions of use.

16. Other Information

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

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