Sodium Gluconate MSDS

Product Name and Identification

Product Name: Sodium Gluconate
Synonyms: D-Gluconic acid sodium salt, Sodium D-gluconate
CAS Number: 527-07-1
Chemical Formula: C6H11NaO7
Product Use: Used as a chelating agent, cleaner, corrosion inhibitor, and in food and personal care products.
Manufacturer Information: [Provide specific details if applicable]

Composition/Ingredients

Chemical Name: Sodium Gluconate
Concentration: >98%
CAS Number: 527-07-1
EC Number: 208-407-7
Molecular Weight: 218.14 g/mol

Hazards Identification

Classification of the Substance:
Not considered hazardous under OSHA Hazard Communication standards (29 CFR 1910.1200).

Labeling:

- **Signal Word:** None required
- **Hazard Statements:** Not classified as hazardous.
- **Precautionary Statements:**
  - P264: Wash hands thoroughly after handling.
  - P280: Wear appropriate personal protective equipment as needed.

Additional Hazards:
Fine dust may cause minor mechanical irritation to eyes or respiratory tract if inhaled.

First Aid Measures

General Advice: Not expected to pose significant health hazards under normal use conditions. Seek medical attention if symptoms occur.

- **Eye Contact:** Rinse cautiously with water for several minutes. Remove contact lenses if present. Continue rinsing. Seek medical attention if irritation persists.
- **Skin Contact:** Wash skin thoroughly with soap and water. Seek medical attention if irritation develops.
- **Inhalation:** Move to fresh air. If breathing difficulty occurs, seek medical attention.
- **Ingestion:** Rinse mouth with water. Seek medical attention if adverse effects occur or discomfort persists.

Key Symptoms and Effects: May cause mild mechanical irritation to eyes or respiratory tract with excessive exposure to dust.

Handling and Storage

Handling:

- Minimize dust generation and accumulation.
- Avoid breathing in dust.
- Follow good hygiene practices, such as washing hands after handling.

Storage:

- Store in a cool, dry, and well-ventilated area.
- Keep containers tightly sealed when not in use.
- Avoid moisture exposure to prevent clumping or loss of product quality.

Specific Storage Conditions: Protect from extreme temperatures and incompatible substances, such as strong oxidizers.

Exposure Controls/Personal Protection

Exposure Limits:
No specific occupational exposure limits established. Follow general workplace safety practices.

Engineering Controls:
Ensure adequate ventilation, especially in areas where dust generation may occur.

Personal Protective Equipment (PPE):

- **Eye Protection:** Safety glasses with side shields or goggles.
- **Skin Protection:** Wear gloves and long-sleeved clothing to minimize skin contact.
- **Respiratory Protection:** Use a dust mask or respirator approved by NIOSH if excessive dust exposure is possible.
- **General Hygiene Measures:** Wash hands and exposed areas with soap and water after handling. Avoid eating, drinking, or smoking while working with the material.

Physical and Chemical Properties

- **Physical State:** Solid (granules or powder)
- **Appearance:** White to off-white crystalline powder
- **Odor:** Odorless
- **Melting Point:** Decomposes upon heating
- **Boiling Point:** Not applicable
- **Solubility:** Freely soluble in water
- **Density:** Approximately 1.98 g/cm³
- **pH (1% solution):** 6.5-8.5
- **Molecular Weight:** 218.14 g/mol
- **Vapor Pressure:** Negligible at room temperature
- **Flash Point:** Not applicable

Stability and Reactivity

Chemical Stability: Stable under normal temperature and storage conditions.

Conditions to Avoid: Exposure to high humidity, heat, or direct sunlight.

Materials to Avoid: Strong oxidizing agents.

Hazardous Decomposition Products: May release carbon dioxide and carbon monoxide upon thermal decomposition.

Reactivity: Non-reactive under standard handling conditions.

Toxicological Information

Routes of Exposure:

- Dermal (skin) contact

- Eye contact
- Dust inhalation
- Accidental ingestion

Acute Toxicity:

- **Oral LD50 (Rat):** > 2,000 mg/kg (low toxicity)
- **Dermal LD50 (Rabbit):** Not established but expected to be low.

Chronic Effects: No significant long-term effects observed in available studies.

Irritation: May cause mild mechanical irritation to skin, eyes, or respiratory tract with excessive exposure.

Carcinogenicity: Not classified as a carcinogen by IARC, OSHA, or NTP.

Other Health Effects: Repeated exposure to high levels of dust may cause respiratory discomfort.

Disposal Considerations

General Disposal Guidelines:
Dispose of material and packaging in accordance with all local, regional, and national environmental regulations.

Specific Disposal Instructions:

- Do not discharge into waterways or sewer systems.
- Recycle or re-use if practical.
- When disposal is required, incinerate in a licensed facility or send to an approved landfill.

Contaminated Packaging: Treat as solid waste unless thoroughly cleaned.