



NEWAY SINOPHC TECH. LIMITED

ADD:RM. 204, BUILDING 3, NO. 188, AONA RD., CHINA (SHANGHAI) PILOT FREE TRADE ZONE.
Email:marketing01@newayphc.com; Phone:+86-021-50350029 <https://www.newayphc.com>

Safety Data Sheet (MSDS)

(According to GB/T 16483 and GB/T 17519; Adapts to GHS, IMDG, IATA Standards)

Potassium Sorbate (Food Grade)

SECTION 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product Identifiers

- Product Name: Potassium Sorbate (Food Grade)
- Product Number: PS-20260226
- Brand: SIGALD
- CAS-No.: 590-00-1
- Synonyms: Potassium (E,E)-2,4-hexadienoate; Food Grade Potassium Sorbate; 山梨酸钾 (食品级)
- EC-No.: 209-671-3

1.2 Details of the supplier of the safety data sheet

- Company: NEWAY SINOPHC TECH. LIMITED
- RM. 204, BUILDING 3, NO. 188, AONA RD., CHINA (SHANGHAI) PILOT FREE TRADE ZONE.
- Telephone: +86-021-50350029
- Fax: +86-021-50350029

1.3 Emergency telephone

Emergency Phone #: +86-021-50350029 (CHEMTREC)

1.4 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

- Identified Uses: Food additive (preservative/antifungal agent for beverage, dairy, pastry, sauce, canned food); cosmetic preservative; feed preservative (non-food grade).
- Uses Advised Against: Not for pharmaceutical injection; no restricted uses for food grade when used in compliance with national dosage standards.

SECTION 2: Hazards Identification

| | |
|--|---|
| Summary of Emergency Measures | White crystalline powder. Slightly hazardous (mild irritant). After inhalation: Move to fresh air if dust discomfort occurs. In case of skin contact: Rinse skin with water for 5 minutes; no special treatment needed. After eye contact: Rinse with plenty of water for 5-10 minutes; consult a doctor if irritation persists. After swallowing: Rinse mouth with water, drink a small amount of warm water; no induced vomiting required. Non-combustible. No explosion risk. |
|--|---|

2.1 GHS Classification

- Skin irritation (Category 2)
- Eye irritation (Category 2)
- Specific target organ toxicity - single exposure (Respiratory tract, Category 3)

2.2 GHS Label Elements

- Hazard Pictogram: (Exclamation mark)
- Signal Word: **Warning**



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- Hazard Statements:
 - H315: Causes skin irritation
 - H319: Causes serious eye irritation
 - H335: May cause respiratory irritation
- Precautionary Statements:
 - P261: Avoid breathing dust/fume/gas/mist/vapours/spray
 - P264: Wash skin thoroughly after handling
 - P280: Wear protective gloves/eye protection
 - P302+P352: If on skin: Wash with plenty of water
 - P305+P351+P338: If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 - P332+P313: If skin irritation occurs: Get medical advice/attention
 - P337+P313: If eye irritation persists: Get medical advice/attention
 - P362: Take off contaminated clothing and wash before reuse

2.3 Physical and Chemical Hazards

Non-combustible, no explosion risk; decomposes at $\geq 270^{\circ}\text{C}$ (no hazardous products); reacts with strong acids to release sorbic acid; stable under normal food use and storage conditions.

2.4 Health Hazards

- Inhalation of dust may cause mild respiratory tract irritation (cough, sore throat) in sensitive individuals.
- Direct skin contact may cause slight redness and irritation; no corrosion.
- Direct eye contact causes mild to moderate irritation (redness, tearing); reversible after rinsing.
- Accidental ingestion of large amounts may cause gastrointestinal discomfort (nausea, abdominal pain); no acute toxicity at food preservative dosage (GB 2760 standard).

2.5 Environmental Hazards

Environmentally friendly; fully biodegradable in water/soil; no adverse effects on aquatic/terrestrial organisms at normal use concentration; no bioaccumulation potential.

2.6 Other Hazards

No additional hazards identified.

SECTION 3: Composition/Information on Ingredients

- Substance / Mixture: Pure substance (100%)

3.1 Main Components

| | |
|------------------|--|
| Formula | $\text{C}_6 \text{H}_7 \text{KO}_2$ (Potassium 2,4-hexadienoate) |
| Molecular Weight | 150.22 g/mol |
| CAS-No.: | 590-00-1 |
| EC-No.: | 209-671-3 |



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| | |
|---------------------|---------------------|
| Concentration (w/w) | ≥99.0% (Food Grade) |
|---------------------|---------------------|

Hazardous Ingredients

| Component | Classification | Concentration (w/w) |
|------------------------------------|--|---------------------|
| Potassium Sorbate | Skin/Eye Irritant, Mild Respiratory Irritant | 99.0-99.8% |
| Total Hazardous Ingredients | 100% | 99.0-99.8% |

SECTION 4: First Aid Measures

4.1 Description of First-Aid Measures

- If Inhaled: Move victim to fresh air and rest in a comfortable breathing position. Loosen tight clothing. If cough or chest tightness persists, consult a doctor.
- In Case of Skin Contact: Immediately rinse skin with plenty of running water for 5-10 minutes. Remove contaminated clothing and shoes; wash clothing before reuse. If irritation occurs, apply mild emollient and seek medical advice if needed.
- In Case of Eye Contact: Hold eyes open and rinse thoroughly with plenty of running water for 5-10 minutes. Remove contact lenses if present and easy to do. Do not rub eyes. Consult a doctor if irritation or blurred vision persists.
- If Swallowed: Rinse mouth with clean water. Drink 200-300 mL warm water to dilute. Do not induce vomiting. Consult a doctor only if gastrointestinal discomfort (nausea, abdominal pain) occurs.

4.2 Most Important Symptoms and Effects, Both Acute and Delayed

- Acute Effects: Mild respiratory irritation from dust inhalation, skin redness, eye irritation, mild gastrointestinal discomfort from large-dose ingestion.
- Delayed Effects: No known delayed toxic effects based on long-term food use and scientific data.

4.3 Indication of Any Immediate Medical Attention and Special Treatment Needed

No specific antidote; treat symptomatically according to clinical manifestations (e.g., anti-irritation for skin/eye contact).

4.4 Notes to Physician

Inform the physician of the product composition and exposure route; supportive treatment is recommended for ingestion of large amounts.

SECTION 5: Firefighting Measures

5.1 Extinguishing Media

- Suitable Extinguishing Media: Water spray, carbon dioxide (CO₂), dry chemical powder, foam.
- Unsuitable Extinguishing Media: No limitations of extinguishing agents.

5.2 Special Hazards Arising from the Substance or Mixture

- Non-combustible; no flame or smoke during combustion (if involved in fire); decomposes at ≥270°C to release non-toxic carbon dioxide and potassium oxide.
- No hazardous combustion products; no secondary fire/explosion hazard.

5.3 Advice for Firefighters

- Wear standard fire-fighting gear (gloves, goggles, dust mask) to avoid inhalation of dust and skin/eye contact.
- Cool containers with water spray to prevent overheating and decomposition.
- Ensure good ventilation at fire scene to disperse dust.

SECTION 6: Accidental Release Measures

6.1 Personal Precautions, Protective Equipment and Emergency Procedures

- Wear FFP1 dust mask, chemical protective goggles, nitrile rubber gloves for small spills; add protective clothing for large spills.
- Evacuate non-essential personnel from the spill area; ensure good ventilation to disperse dust.
- Do not touch or walk through the spilled powder directly.

6.2 Environmental Precautions

- Prevent spilled powder from entering sewers, rivers, lakes or other water bodies; the product is biodegradable, no severe environmental pollution risk if accidental entry occurs.
- No special environmental treatment needed for small spills; dilute with water for large spills in water bodies.

6.3 Methods and Materials for Containment and Cleaning Up

- Small Spill: Gently sweep up with a clean dry brush, collect in a sealed plastic container for reuse or disposal; wipe the area with a dry cloth to avoid dust dispersion.
- Large Spill: Contain with plastic barriers to prevent spread; transfer to a sealed HDPE drum with a clean shovel for recycling or disposal; clean the area with a small amount of water and ventilate thoroughly.

6.4 Reference to Other Sections

For disposal, see Section 13.

SECTION 7: Handling and Storage

7.1 Precautions for Safe Handling

- Operate in a well-ventilated, dry area; avoid generating dust during weighing, mixing and packaging (use low-speed mixing).
- Wear personal protective equipment (PPE) as specified in Section 8; wash hands and face thoroughly with soap and water after handling; do not eat, drink or smoke in the workplace.
- Avoid contact with strong acids (HCl, citric acid) to prevent release of sorbic acid; do not mix with strong oxidants in closed containers.
- Use non-sparking tools and equipment; avoid friction and impact to prevent dust accumulation.

7.2 Conditions for Safe Storage, Including Any Incompatibilities

- **Storage Conditions:** Store in a cool, dry, well-ventilated food-grade warehouse. Keep container tightly sealed to prevent moisture absorption, caking and degradation. Storage temperature $\leq 30^{\circ}\text{C}$, relative humidity $\leq 65\%$.

- **Incompatibilities:** Strong acids (pH < 3), strong oxidants (hydrogen peroxide, potassium permanganate), high temperature ($\geq 270^{\circ}\text{C}$); do not store with acidic food additives in the same sealed container.
- **Storage Class (TRGS 510):** 13 (Non-Hazardous Solids, with mild irritant properties)
- **Shelf Life:** 36 months (unopened, under specified storage conditions); 12 months after opening (re-seal tightly and use as soon as possible).
- **Packaging Requirements:** Store in moisture-proof sealed HDPE drums, paper bags with plastic inner lining or aluminum foil vacuum bags.

SECTION 8: Exposure Controls/Personal Protection

8.1 Control Parameters

| Component | CAS-No. | TLV-TWA (8h) | TLV-STEL (15min) | Basis |
|---|----------|-------------------------------|-------------------------------|-------|
| Potassium Sorbate | 590-00-1 | 10 mg/m ³ (dust) | 20 mg/m ³ (dust) | ACGIH |
| Sorbic Acid (decomposition/ reaction product) | 110-44-1 | 10 mg/m ³ (vapour) | 20 mg/m ³ (vapour) | ACGIH |

8.2 Exposure Controls

- **Engineering Controls:** Install local exhaust ventilation at the operation station to capture dust; maintain general ventilation in the workplace; use moisture-proof equipment to avoid product caking.
- **Personal Protective Equipment (PPE):**
 - Eye/Face Protection: Chemical protective goggles with side shields for routine handling; face shield recommended for large-scale operation.
 - Skin Protection: Nitrile rubber gloves (thickness $\geq 0.11\text{ mm}$), anti-slip food-grade safety shoes; protective clothing for large-scale dust operation.
 - Respiratory Protection: FFP1 dust mask for normal handling; no respiratory protection needed for dissolved aqueous solution use.
 - Hand Protection: Replace gloves if damaged or contaminated; wash gloves before removal.
- **Control of Environmental Exposure:** Do not discharge waste material into the environment directly; treat according to local regulations.

SECTION 9: Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

a) Physical State: Solid (crystalline powder/granule)
 b) Color: White to off-white
 c) Odor: Odorless (food grade)
 d) Melting Point/Freezing Point: 270°C (decomposes, no melting)
 e) Initial Boiling Point and Boiling Range: N/A (decomposes before boiling)
 f) Flammability (Liquid/Gas): Non-combustible (solid)
 g) Upper/Lower Flammability or Explosive Limits: Not applicable
 h) Flash Point: Not applicable
 i) Autoignition Temperature: Not applicable
 j) Decomposition Temperature: $\geq 270^{\circ}\text{C}$ (decomposes to CO_2 and K_2O)
 k) pH Value (25°C): 7.0-8.5 (5% aqueous solution)
 l) Viscosity (25°C): Not applicable (solid); aqueous solution viscosity close to water
 m) Water Solubility: 143 g/100mL (20°C); highly soluble in water, slightly soluble in ethanol
 n) Partition Coefficient (n-octanol/water): -0.7 (slightly hydrophilic)
 o) Vapor Pressure (25°C):

Negligible (<0.001 hPa)p) Density (25°C, solid): 1.36 g/cm³ Bulk Density: 0.7-0.9 g/cm³r)
Particle Characteristics: 80-120 mesh free-flowing crystalline powders) Explosive Properties: Not
explosive) Oxidizing Properties: None (no oxidizing/reducing properties)

9.2 Other Safety Information

Hygroscopic; easy to absorb moisture and cake in humid environment; aqueous solution is stable at room temperature (pH 7.0-8.5) for 6 months.

SECTION 10: Stability and Reactivity

10.1 Chemical Stability

Stable under recommended storage and food use conditions (≤30°C, dry, sealed); no spontaneous reaction with air, water or oxygen at room temperature; stable in acidic and neutral food systems (pH 4.0-6.0, optimal preservative effect).

10.2 Possibility of Hazardous Reactions

- Reacts with **strong acids** (pH < 3) to release sorbic acid crystals, no violent gas release.
- Decomposes at ≥270°C to form non-toxic inorganic and organic products; no explosion or fire risk.
- No polymerization reaction occurs under any normal use and storage conditions.

10.3 Conditions to Avoid

High temperature (≥270°C), high humidity (≥65% RH), strong acids, strong oxidants, direct sunlight (long-term).

10.4 Incompatible Materials

- Strong acids: Hydrochloric acid, sulfuric acid, citric acid, malic acid (high concentration).
- Strong oxidants: Hydrogen peroxide, potassium permanganate, sodium hypochlorite.
- No incompatibility with common food additives (sugar, salt, starch, other preservatives).

10.5 Hazardous Decomposition Products

Carbon dioxide (CO₂), potassium oxide (K₂O), small molecular organic acids; **no toxic decomposition products** at any temperature.

SECTION 11: Toxicological Information

11.1 Information on Toxicological Effects

- **Acute Toxicity:**
 - Oral (Rat, LD₅₀): 4920 mg/kg (mild toxicity)
 - Dermal (Rabbit, LD₅₀): >5000 mg/kg (practically non-toxic)
 - Inhalation (Rat, LC₅₀): >1000 mg/m³ (4-hour exposure, dust)
- **Skin Corrosion/Irritation:** Mild irritation (Rabbit test, 4-hour exposure); slight redness, no corrosion or blistering.
- **Serious Eye Damage/Eye Irritation:** Moderate irritation (Rabbit test, 24-hour exposure); redness and tearing, fully reversible after rinsing.
- **Respiratory or Skin Sensitization:** No skin/respiratory sensitization (long-term human/animal use data; no allergic reaction reported).

- **Germ Cell Mutagenicity:** No mutagenic effects (Ames test, chromosome aberration test); negative results in all genetic toxicity tests.
- **Carcinogenicity:** Not classified as carcinogenic by IARC, EPA, or NTP; FDA/CFDA GRAS certified (food grade).
- **Reproductive Toxicity:** No adverse reproductive/developmental effects in animal tests (rat/mouse); safe for pregnant/lactating women at food dosage.
- **Specific Target Organ Toxicity (Single/Repeated Exposure):** No target organ toxicity at food preservative dosage; mild respiratory irritation only from high-concentration dust inhalation.
- **Aspiration Hazard:** Low (crystalline powder, no aspiration risk for normal handling).

11.2 Additional Information

Approved by FAO/WHO Codex Alimentarius, **ADI: 0-25 mg/kg body weight** (based on sorbic acid); the most widely used low-toxic food preservative, safe for long-term human consumption in compliance with GB 2760-2021 dosage standards.

SECTION 12: Ecological Information

12.1 Toxicity

- Fish (Zebrafish, LC₅₀): >5000 mg/L (96-hour exposure, aqueous solution)
- Daphnia (EC₅₀): >3000 mg/L (48-hour exposure, aqueous solution)
- Algae (EC₅₀): >4000 mg/L (72-hour exposure, aqueous solution) No toxic effects on aquatic organisms at normal use concentration; high concentration may cause slight pH change of water body (alkalization).

12.2 Persistence and Degradability

Fully biodegradable in water/soil (BOD₅ /COD > 0.8); degraded by microorganisms (bacteria/fungi) into carbon dioxide and water within 7-10 days; no persistent organic pollutants (POPs).

12.3 Bioaccumulative Potential

No bioaccumulation potential; the product is highly water-soluble, decomposes into small molecules in organisms, and is excreted rapidly without accumulation in tissues/organs.

12.4 Mobility in Soil

High mobility in soil (high water solubility); easy to leach into groundwater, but no toxic effect on groundwater quality (biodegradable).

12.5 Results of PBT and vPvB Assessment

Not classified as PBT/vPvB (no persistence, no bioaccumulation, low toxicity); environmentally friendly food additive at normal use concentration.

12.6 Other Adverse Effects

No known adverse effects on soil microorganisms, plants or terrestrial animals; can be used as a carbon source for microbial growth in the environment.

SECTION 13: Disposal Considerations

13.1 Waste Treatment Methods

- **Product Waste:** Uncontaminated waste can be fully reused as food/industrial raw material; contaminated waste can be dissolved in water and discharged to municipal sewage treatment plants (biodegradable); or disposed of by licensed solid waste treatment facilities.
- **Packaging Waste:** Rinse packaging thoroughly with water (neutralize with a small amount of acid if necessary), then dispose of as non-hazardous waste or recycle (HDPE/paper/aluminum foil).
- **Aqueous Waste:** Waste water containing potassium sorbate can be directly discharged to biological wastewater treatment systems, no special treatment required.

13.2 Disposal Notes

- Do not mix with acidic waste in large amounts during disposal to prevent release of sorbic acid crystals.
- Comply with local, national and international waste disposal regulations (e.g., China GB 8978, EU WFD, US EPA).
- No open burning of waste powder (unnecessary, non-toxic decomposition).

SECTION 14: Transport Information

14.1 UN Number

ADR/RID: -; IMDG: -; IATA-DGR: -

14.2 UN Proper Shipping Name

ADR/RID: Not dangerous goods; IMDG: Not dangerous goods; IATA-DGR: Not dangerous goods

14.3 Transport Hazard Class(es)

ADR/RID: -; IMDG: -; IATA-DGR: -

14.4 Packaging Group

ADR/RID: -; IMDG: -; IATA-DGR: -

14.5 Environmental Hazards

ADR/RID: No; IMDG Marine Pollutant: No; IATA-DGR: No

14.6 Special Precautions for User

- Transport at $\leq 30^{\circ}\text{C}$; use moisture-proof, sealed packaging (HDPE drum/paper bag with plastic inner lining/aluminum foil bag); avoid rain, moisture, direct sunlight and high temperature during transport.
- Do not stack heavy objects on the packaging to prevent caking and packaging damage; avoid collision and friction to prevent dust generation.
- Do not transport with strong acids, strong oxidants and high-temperature goods (separate loading); can be transported with other food additives (normal mixing).
- Ensure good ventilation in the transport vehicle; no smoking in the vehicle.

14.7 Incompatible Materials

Avoid transport with strong acids, strong oxidants, concentrated acidic food additives and high-temperature ($\geq 270^{\circ}\text{C}$) cargoes.



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Further Information: Not classified as dangerous goods under international transport regulations (ADR/RID, IMDG Code, IATA-DGR); transport as ordinary food additive.

SECTION 15: Regulatory Information

15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture

- **National Regulations (China):**

- Hazardous Chemical Safety Management Regulation (Non-hazardous classification)
- National Food Safety Standard for Food Additives (GB 2760-2021) – approved as preservative (specified dosage limit for different food categories)
- National Food Safety Standard for Potassium Sorbate (GB 1886.30-2015) – strict quality requirements for food grade
- Water Pollution Prevention and Control Law, Air Pollution Prevention and Control Law

- **International Regulations:**

- GHS Classification (Rev. 9): Skin Irrit. 2, Eye Irrit. 2, STOT-single 3 (Resp. tract)
- REACH (EU): Registered; not in SVHC Candidate List; complies with EC 1333/2008 (food grade)
- TSCA (US): Listed on the TSCA Inventory; FDA GRAS certified (21 CFR 184.1693)
- Codex Alimentarius (FAO/WHO): Approved as food preservative (ADI: 0-25 mg/kg bw, based on sorbic acid)
- FCC (Food Chemicals Codex): Grade IV compliance

15.2 Other Regulations

Comply with local food safety, occupational health and environmental protection regulations; the workplace must meet the occupational exposure limit (OEL) of dust; food use must follow the dosage limit of national food additive standards.

SECTION 16: Other Information

- **Further Information:** This MSDS is based on current scientific knowledge and complies with GB/T 16483, GB/T 17519, and GHS standards. It is intended for safe handling, storage, transport, and disposal of food-grade Potassium Sorbate. The supplier is not liable for damage caused by improper use, storage or non-compliance with safety precautions.
- **Revision Date:** 26 FEB 2026
- **Version:** V1.0