



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)

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

1.1 Product Identifiers

- Product Name: Tocopherol
- Product Number: TE-20260228
- Brand: SIGALD
- CAS-No.: 1959-2-9
- Synonyms: Vitamin E; Mixed Tocopherols
- Main Component Formula: C₂₉H₅₀O₂ (α-Tocopherol)
- Main Component Molecular Weight: 430.71 g/mol

1.2 Details of the supplier of the safety data sheet

- Company: NEWAY SINOPHC TECH. LIMITED
- Address: 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: Pharmaceutical raw material; food antioxidant/fortifier; cosmetic anti-aging ingredient; feed additive; industrial antioxidant.
- Uses Advised Against: Not for direct undiluted skin application in excessive amount; not for use as a fuel or solvent; avoid use in strong oxidizing systems and high-temperature aqueous systems (>100°C); do not mix with heavy metal ions (Fe, Cu) in high concentration.

SECTION 2: Hazards Identification

2.1 GHS Classification

- Eye irritation: Category 2 (mild irritation, reversible)
- Skin irritation: No classification
- Acute toxicity (oral/dermal/inhalation): No classification
- Specific target organ toxicity (single/repeated exposure): No classification

2.2 GHS Label Elements

- Hazard Pictogram: Warning (exclamation mark)
- Signal Word: Warning
- Hazard Statements: H320 (Causes mild eye irritation)
- Precautionary Statements: P264 (Wash hands thoroughly after handling); P280 (Wear eye protection); P305+P351+P338 (If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing); P337+P313 (If eye irritation persists: Get medical advice/attention)

2.3 Physical and Chemical Hazards



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- No flammable, explosive, corrosive or oxidizing hazards under normal use conditions. Sensitive to light, heat, oxygen and heavy metal ions, easy to oxidize and lose antioxidant activity, no toxic substances generated during oxidation.

2.4 Health Hazards

- Acute health hazards: Mild eye irritation in case of direct contact; no skin irritation, oral toxicity or inhalation toxicity in normal dosage.
- Chronic health hazards: No known chronic toxic effects with long-term use in compliance with dosage standards; no carcinogenic, mutagenic, reproductive toxic or teratogenic effects reported by authoritative organizations (IARC, EPA).

2.5 Environmental Hazards

- Low environmental toxicity, fully biodegradable in natural environment; no adverse effects on aquatic organisms, soil microorganisms and plants at normal use and release concentration; no bioaccumulation potential in the food chain.

2.6 Other Hazards

- No additional hazards identified under normal use and storage conditions.

SECTION 3: Composition/Information on Ingredients

- Substance / Mixture: Mixture (natural mixed tocopherols, main component α -Tocopherol)
- Main Active Ingredients: α -Tocopherol ($\geq 70.0\%$, w/w), β -Tocopherol, γ -Tocopherol, δ -Tocopherol (total tocopherols $\geq 95.0\%$, w/w)
- CAS-No. of main component: 10191-41-0 (mixed tocopherols); 59-02-9 (α -Tocopherol)
- No hazardous impurities contained (all impurities meet industrial standard limits)
- No added hazardous stabilizers or solvents

SECTION 4: First Aid Measures

4.1 Description of First-Aid Measures

- If Inhaled: No special risk under normal use (low vapor pressure, oily liquid). If accidental inhalation of mist occurs and discomfort is felt, move to fresh air and rest. Consult a doctor if cough or chest tightness persists for a long time.
- In Case of Skin Contact: Rinse skin with plenty of running water and mild soap for 3~5 minutes if necessary. No special treatment is needed for normal contact; no irritation reaction will occur generally.
- In Case of Eye Contact: Rinse eyes thoroughly with plenty of running water for 5~10 minutes, remove contact lenses if present and easy to do. Do not rub eyes hard. Consult a doctor immediately if redness, tearing, pain or blurred vision persists for more than 48 hours.
- If Swallowed: Rinse mouth with water. No need to induce vomiting for normal dosage ingestion; if large amount is accidentally swallowed and abdominal distension or discomfort occurs, drink a small amount of warm water and consult a doctor if necessary (do not induce vomiting).

4.2 Most Important Symptoms and Effects, Both Acute and Delayed



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- Acute Effects: Mild redness, tearing and slight pain of eyes in case of direct contact; no systemic toxic symptoms or skin irritation in normal use.
 - Delayed Effects: No known delayed toxic effects reported at home and abroad.
- #### 4.3 Indication of Any Immediate Medical Attention and Special Treatment Needed
- No specific antidote; treat symptomatically according to the actual condition of the injured person. Inform the doctor of the product name and main component (tocopherol/Vitamin E) if medical treatment is needed.

4.4 Notes to Physician

- No special medical treatment measures required; symptomatic treatment for eye irritation is sufficient (e.g., using artificial tear eye drops); avoid using acidic or irritating eye drugs.

SECTION 5: Firefighting Measures

5.1 Extinguishing Media

- Suitable Extinguishing Media: Dry powder, carbon dioxide (CO₂), foam, water spray (for cooling fire containers and surrounding equipment).
- Unsuitable Extinguishing Media: No strict limitations; direct water flushing is not recommended (easy to spread the oily liquid and cause secondary pollution).

5.2 Special Hazards Arising from the Substance or Mixture

- Non-combustible under normal storage and use conditions; decomposes at high temperature (>300°C) to produce a small amount of non-hazardous fatty acids and hydrocarbon gases; no toxic, corrosive or explosive combustion/decomposition products generated.
- The oxidized product of tocopherol has no fire and explosion hazards.

5.3 Advice for Firefighters

- Wear standard fire-fighting gear (fire helmet, fire suit, anti-smoke gas mask) when fighting fires. Cool the storage container with water spray to prevent thermal decomposition and oxidation of the product. Keep a safe distance from the fire scene and avoid inhaling the slight decomposition gas generated by high temperature.

SECTION 6: Accidental Release Measures

6.1 Personal Precautions, Protective Equipment and Emergency Procedures

- Wear nitrile rubber gloves and safety glasses when handling spills; wear protective clothing if necessary. Evacuate non-essential personnel from the spill area; ensure good ventilation and avoid direct sunlight on the spill area.

6.2 Environmental Precautions

- Prevent the spilled liquid from flowing into sewers, rivers, lakes and other water bodies; absorb the spilled liquid with inert materials in time to avoid environmental pollution.
- Do not let the spilled liquid contact with heavy metal materials (Fe, Cu) to avoid accelerating oxidation of the product.

6.3 Methods and Materials for Containment and Cleaning Up



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- Small Spill: Absorb the spilled liquid with absorbent cotton, diatomite, sand or industrial absorbent pads, put the absorbed waste into a sealed plastic bag and dispose of it as general industrial waste. Rinse the spill area with a small amount of vegetable oil or ethanol and wipe dry.
- Large Spill: Contain the spilled liquid with sand dikes to prevent spreading, absorb with large-area industrial absorbent pads, transfer the absorbed waste to a sealed brown glass or stainless steel container for recycling or disposal in accordance with local regulations. Clean the spill area with neutral detergent and water, and dry it thoroughly.

6.4 Reference to Other Sections

- For the disposal of spill waste, see Section 13; for personal protective equipment, see Section 8; for storage of recycled product, see Section 7.

SECTION 7: Handling and Storage

7.1 Precautions for Safe Handling

- Operate in a well-ventilated, dark and dry environment; avoid direct sunlight, high temperature and open fire during operation.
- Wear personal protective equipment as required; wash hands thoroughly with soap and water after handling, and do not touch eyes and mucous membranes with unwashed hands.
- Avoid mixing with strong oxidants, heavy metal ions (Fe, Cu), strong acids and strong bases; use glass, stainless steel or plastic equipment (PP/PE) for handling and formulation, and avoid iron, copper and other metal equipment.
- Do not smoke, eat or drink during operation to avoid accidental ingestion; the operation area should be equipped with emergency eye wash equipment.
- The product after opening should be used up as soon as possible, and the container should be sealed tightly after each use to isolate oxygen and light.

7.2 Conditions for Safe Storage, Including Any Incompatibilities

- Storage Conditions: Store in a cool, dark, dry and sealed container (brown glass or stainless steel is recommended); storage temperature $\leq 25^{\circ}\text{C}$, relative humidity $\leq 60\%$. Avoid direct sunlight, high temperature ($>80^{\circ}\text{C}$), freezing, oxygen and heavy metal ion contamination.
- Incompatibilities: Strong oxidants (e.g., hydrogen peroxide, potassium permanganate, chlorine), heavy metal ions (Fe^{3+} , Cu^{2+}), strong acids ($\text{pH} < 4$), strong bases ($\text{pH} > 10$), light, heat and oxygen.
- Storage Class (TRGS 510): 10 (Non-hazardous Organic Liquids)
- Shelf Life: 24 months (unopened, under specified storage conditions); the product after opening should be used up within 3 months and stored in a sealed and light-shielding manner.

SECTION 8: Exposure Controls/Personal Protection

8.1 Control Parameters

- Occupational Exposure Limit (OEL): No national/international unified occupational exposure limit for tocopherol; control the exposure concentration to avoid direct and large amount of contact with eyes.

8.2 Exposure Controls

- Engineering Controls: Install exhaust fans in the operation area to ensure good ventilation; use light-shielding equipment (e.g., blackout curtains, light-shielding hoods) to avoid light irradiation of the product and operation area.
- Personal Protective Equipment (PPE):
 - Eye/Face Protection: Wear impact-resistant safety glasses with side shields for all operations; wear a face shield for large-scale pouring and mixing operations to prevent splashing into eyes.
 - Skin Protection: Wear nitrile rubber gloves (thickness ≥ 0.1 mm) and light-shielding protective clothing during operation; anti-slip shoes are recommended for on-site operation. No special skin protection is needed for short-term and small-quantity contact.
 - Respiratory Protection: No respiratory protection required under normal use conditions; wear a dust/mist respirator if a large amount of oil mist is generated during high-temperature processing ($>80^{\circ}\text{C}$).
 - Hand Protection: Wash hands with mild soap and water after handling; do not use organic solvents to wash hands directly to avoid skin irritation.
- Control of Environmental Exposure: Collect and treat the waste liquid generated during operation to avoid direct discharge into the environment; recycle the light-shielding packaging materials; the spilled liquid should be cleaned up in time to avoid oxidation and environmental pollution.

SECTION 9: Physical and Chemical Properties

- Physical State: Oily liquid
- Color: Pale yellow to amber
- Odor: Slight mild nutty odor, no pungent smell
- Melting Point/Freezing Point: $-29 \sim -23^{\circ}\text{C}$ (mixed tocopherols)
- Initial Boiling Point and Boiling Range: $>300^{\circ}\text{C}$ (decomposes)
- Flammability (Liquid/Gas): Non-flammable
- Upper/Lower Flammability or Explosive Limits: Not applicable
- Flash Point: $>150^{\circ}\text{C}$ (Closed Cup)
- Autoignition Temperature: $>380^{\circ}\text{C}$
- Decomposition Temperature: $\geq 80^{\circ}\text{C}$ (oxidation and loss of activity under light/heat, no hazardous decomposition)
- pH Value (25°C): Not applicable (oily liquid, insoluble in water)
- Viscosity (25°C): 60~100 mPa·s
- Water Solubility: Insoluble in water (<0.1 g/L, 25°C)

- Partition Coefficient (n-octanol/water): $\log P = 9.8$ (α -Tocopherol, 25°C)
- Vapor Pressure (25°C): <0.001 hPa
- Density (25°C): 0.94~0.96 g/cm³
- Relative Vapor Density: >1 (air=1)
- Particle Characteristics: Not applicable (liquid)
- Explosive Properties: Not explosive
- Oxidizing Properties: None (antioxidant, reducing property)
- Other: Easy to dissolve in vegetable oil, ethanol, ether, chloroform and other organic solvents

SECTION 10: Stability and Reactivity

10.1 Chemical Stability: Stable under recommended storage conditions ($\leq 25^{\circ}\text{C}$, dark, sealed, isolated from oxygen and heavy metals); the antioxidant activity decreases with the extension of storage time, no toxic substances generated. 10.2 Possibility of Hazardous Reactions: No hazardous chemical reactions under normal use and storage conditions; no reaction with most organic and inorganic materials except strong oxidants and heavy metal ions. 10.3 Conditions to Avoid: Direct sunlight, high temperature ($>80^{\circ}\text{C}$), oxygen, heavy metal ions (Fe^{3+} , Cu^{2+}), strong acids and strong bases. 10.4 Incompatible Materials: Strong oxidants (hydrogen peroxide, potassium permanganate, chlorine gas, etc.), heavy metal salts (ferric chloride, copper sulfate, etc.), strong acids (hydrochloric acid, sulfuric acid), strong bases (sodium hydroxide, potassium hydroxide). 10.5 Hazardous Decomposition Products: No hazardous decomposition products; oxidizes under light/heat/oxygen to produce tocopheryl quinone (non-toxic, no antioxidant activity); decomposes at high temperature ($>300^{\circ}\text{C}$) to produce non-hazardous fatty acids and hydrocarbon gases.

SECTION 11: Toxicological Information

11.1 Information on Toxicological Effects

- Acute Toxicity: Oral (Rat, LD50): >5000 mg/kg; Dermal (Rabbit, LD50): >10000 mg/kg; Inhalation (Rat, LC50): >20 mg/m³ (4-hour exposure, oil mist)
- Skin Corrosion/Irritation: No irritation (Rabbit, 24-hour exposure: no redness, swelling or erosion)
- Serious Eye Damage/Eye Irritation: Category 2 (Rabbit, 24-hour exposure: mild redness and tearing, reversible within 48h)
- Respiratory or Skin Sensitization: No sensitizing effects (human patch test and animal sensitization test are negative)
- Germ Cell Mutagenicity: Negative (Ames test, mouse bone marrow chromosome aberration test, no mutagenic effect)
- Carcinogenicity: Not classified as carcinogenic by IARC, EPA, or NTP (Group 3: not classifiable as to its carcinogenicity to humans)
- Reproductive Toxicity: No reproductive and developmental toxic effects (rat and rabbit teratogenicity tests, NOAEL: 1000 mg/kg/day); vitamin E is an essential nutrient for fetal development.



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- Specific Target Organ Toxicity (Single/Repeated Exposure): No target organ toxicity reported with long-term exposure in normal dosage
- Aspiration Hazard: Low (oily liquid, high viscosity, low vapor pressure, no aspiration risk under normal use)

11.2 Additional Information

- The toxicological properties of tocopherol have been fully and deeply studied worldwide; it is a safe natural nutrient recognized by the food and drug administration of various countries, and no obvious toxic effects on the human body and animals in the recommended dosage range.

SECTION 12: Ecological Information

12.1 Toxicity: Fish (Zebrafish, LC50): >2000 mg/L (96-hour exposure); Daphnia (EC50): >1000

mg/L (48-hour exposure); Algae (Chlorella, EC50): >2000 mg/L (72-hour exposure); Soil

Microorganisms: No inhibitory effect at ≤ 1000 mg/kg soil

12.2 Persistence and Degradability: Fully biodegradable in natural environment (BOD5/COD > 0.6), degraded into carbon dioxide, water and small molecular fatty acids by microorganisms in soil and water within 21 days, no persistent organic pollutants generated.

12.3 Bioaccumulative Potential: Low bioaccumulation potential ($\log P=9.8$, but rapidly metabolized and excreted in organisms, no accumulation in liver, fat and other tissues of animals and humans)

12.4 Mobility in Soil: Low mobility in soil, easily adsorbed by soil organic matter and colloid, no leaching risk to groundwater and surface water.

12.5 Results of PBT and vPvB Assessment: Not classified as PBT/vPvB (biodegradable, low bioaccumulation, no persistent toxicity)

12.6 Endocrine Disrupting Properties: No endocrine disrupting effects (in vitro and in vivo tests by OECD show no interference with the endocrine system of organisms)

12.7 Other Adverse Effects: No known adverse ecological impacts at normal use and release concentration; the product is a natural antioxidant, which can also inhibit the oxidative deterioration of natural organic matter in the environment and has a certain positive effect on the ecological environment.

SECTION 13: Disposal Considerations

13.1 Waste Treatment Methods

- Product Waste: Small amount of expired or deteriorated product can be mixed with combustible waste and incinerated in a licensed incineration plant; large amount of waste can be recycled for refining and reuse (removal of oxidized products). Do not discharge directly into soil, water bodies or the atmosphere.
- Packaging Waste: Rinse the brown glass/stainless steel packaging with vegetable oil or ethanol for 2~3 times, dry it and recycle it; the slightly contaminated packaging can be disposed of as general industrial waste; the heavily contaminated packaging is treated in accordance with local solid waste disposal regulations.

- Spill Waste: The waste absorbed by inert materials is sealed and sent to a licensed solid waste treatment plant for incineration or landfill disposal, and shall not be stacked at will or thrown into the environment.

13.2 Disposal Notes

- Comply with local, national and international waste disposal regulations (e.g., China's Solid Waste Pollution Prevention and Control Law, EU's WEEE Directive); do not mix with hazardous waste for disposal.
- The disposal operation shall be carried out by professional personnel with corresponding qualifications; personal protective equipment shall be worn during disposal to avoid contact with eyes.

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: No14.6 Special Precautions for User: Transport in sealed light-shielding packaging (brown glass or stainless steel); transport temperature $\leq 30^{\circ}\text{C}$, avoid direct sunlight, high temperature, collision, extrusion and rain during transport. Separate from strong oxidants, heavy metal materials, strong acids and strong bases during transport to avoid mixing and contact.14.7 Incompatible Materials: Avoid transport with strong oxidants, heavy metal salts, strong acids, strong bases and light-sensitive materials.

Further Information: Not classified as dangerous goods under ADR, RID, IMDG, IATA and Chinese national transport regulations; can be transported by ordinary road, sea and air transport.

SECTION 15: Regulatory Information

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

- National Regulations (China): Food Safety Law; Pharmaceutical Administration Law; Cosmetic Supervision and Administration Regulation; Feed Additive Management Regulations; Hazardous Chemical Safety Management Regulation (Non-hazardous classification)
- International Regulations: GHS Classification (Rev. 9): Category 2 (eye irritation); REACH (EU): Registered in the REACH Inventory, compliant with CLP Regulation; TSCA (US): Listed on the TSCA Inventory; Codex Alimentarius Commission (CAC): Approved as food additive and fortifier; Pharmacopoeia Standards: Comply with USP, EP, ChP, JP pharmacopoeia standards.

15.2 Other Regulations: Comply with local food, pharmaceutical, cosmetic and feed additive use regulations and dosage limit standards; the use in industrial products shall comply with the relevant industrial product quality and environmental protection standards.

SECTION 16: Other Information



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- Further Information: This MSDS is based on the latest scientific



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