Safety Data Sheet (MSDS)

- Vitamin E-Oil (a-Tocopherol)

(According to GB/T 16483 and GB/T 17519; Adapts to GHS, IMDG, IATA Standards)**Revision Date**: 22 FEB 2026

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

1.1 Product Identifiers

- Product Name: Vitamin E-Oil (a-Tocopherol)
- Synonyms: a-Tocopherol Oil; Natural Vitamin E Oil; d-a-Tocopherol
- Product Number: VEO-20260222
- Form: Pale yellow to amber clear viscous liquid (Food/Cosmetic/Pharmaceutical Grade)
- CAS Number: 1406-66-2
- Molecular Formula: $C_{29}H_{50}O_2$
- Grade: Food Grade / Cosmetic Grade / Pharmaceutical Grade (customizable)

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 (24h Chemical Emergency Response) / CHEMTREC: +1-800-424-9300

1.4 Relevant Identified Uses and Uses Advised Against

- **Identified Uses**: Food antioxidant/nutritional fortifier; cosmetic moisturizer/anti-aging agent; pharmaceutical excipient/active ingredient; feed additive; industrial polymer antioxidant.
- **Uses Advised Against**: Not for injection use in pure form; do not use as a sole food source; avoid use with strong oxidants in high concentration; do not store in open containers for a long time.

SECTION 2: Hazards Identification

2.1 GHS Classification

Not a hazardous substance or mixture (GHS 0 category) - No classification for physical, health or environmental hazards.

2.2 GHS Label Elements

- Hazard Pictogram: None
- Signal Word: None
- Hazard Statements: None
- Precautionary Statements: None

2.3-2.6 Hazards Summary

- **Physical/Chemical Hazards**: Non-flammable, non-explosive; no physical/chemical hazards under normal storage and use conditions; oxidizes slowly when exposed to strong light/oxygen/high temperature, no hazardous reaction.
- **Health Hazards**: Non-toxic, non-irritating to skin and eyes; no acute/chronic toxic effects, no carcinogenic, mutagenic or reproductive toxic effects; safe for human ingestion and topical use in specified dosage.
- **Environmental Hazards**: Environmentally friendly, fully biodegradable; non-toxic to aquatic and terrestrial organisms; no soil and water pollution risk; no bioaccumulation potential.
- **Other Hazards**: No additional hazards identified; no aspiration hazard for normal use; the product is a natural nutrient, no harmful effects on the human body and the environment.

SECTION 3: Composition/Information on Ingredients

- **Substance/Mixture**: Pure substance (a-Tocopherol, ≥96.0%) with trace natural vegetable oil impurities (non-hazardous)
- **Active Ingredient**: a-Tocopherol (1406-66-2), content ≥96.0% (w/w)
- **Impurities**: Trace fatty acids and vegetable oil derivatives (all meet food/cosmetic/pharm grade standards, non-hazardous)
- **Hazardous Components**: None (no classified hazardous ingredients in the product)

SECTION 4: First Aid Measures

4.1 Description of First-Aid Measures

- **If Inhaled (vapor/mist)**: Move the victim to fresh air immediately if discomfort occurs; the product has low volatility, no inhalation hazard under normal conditions, no special treatment needed.
- **In Case of Skin Contact**: No special treatment required; the product can be absorbed by the skin and has a moisturizing and antioxidant effect; rinse with water only if the user needs to clean it.
- **In Case of Eye Contact**: Rinse eyes with plenty of clean running water for 5~10 minutes if the liquid splashes into eyes; no irritation in most cases, consult an ophthalmologist only if mild redness persists (rare).
- **If Swallowed**: No toxic effect; rinse mouth with water, do not induce vomiting; the product is a food-grade nutrient, massive ingestion may cause mild gastrointestinal discomfort (e.g., bloating), drink warm water and rest, consult a physician only if symptoms persist.

4.2 Most Important Symptoms and Effects

- **Acute Effects**: No acute toxic effects; rare mild eye discomfort if splashed into eyes (reversible after flushing); no skin irritation or respiratory tract discomfort.
- **Delayed Effects**: No known delayed toxic effects based on current scientific data; long-term use in specified dosage has nutritional and antioxidant benefits for the human body.
- **Antidote**: No specific antidote needed; treat symptomatically only if massive ingestion causes mild gastrointestinal discomfort.

4.3 Immediate Medical Attention

No immediate medical attention needed under normal use and accidental contact; consult a physician only if massive ingestion causes persistent gastrointestinal discomfort or rare severe eye irritation.

SECTION 5: Firefighting Measures

5.1 Extinguishing Media

- **Suitable**: Water spray, foam, carbon dioxide (CO_2), dry powder; use water spray to cool the container for large-scale fire.
- **Unsuitable**: No special limitations on extinguishing media; avoid high-pressure water jet (may cause liquid splashing).

5.2 Special Hazards Arising from the Substance or Mixture

- Non-flammable; the product is an oil-based liquid with a flash point >200℃, no fire risk under normal conditions; burns at high temperature (>300℃) to produce carbon dioxide, water vapor and a small amount of non-toxic hydrocarbon gases.
- No hazardous polymerization during combustion; slow oxidation in air produces non-toxic oxidation products (tocopheryl quinone), no toxic gas release.

5.3 Advice for Firefighters

- Wear standard fire-fighting gear (fire-proof clothing, gloves, respiratory mask); fight the fire from the upwind direction.
- Cool the surrounding containers with water spray continuously to prevent high-temperature deformation and oil leakage; avoid inhaling combustion fumes.
- After the fire, ventilate the scene thoroughly and clean the fire site with water; the residual product has no irritation and no secondary pollution.

SECTION 6: Accidental Release Measures

6.1 Personal Precautions

- No special personal protective equipment needed; wear nitrile rubber gloves and safety glasses for large spills to avoid splashing; no respiratory protection required.
- Ensure good ventilation in the spill area; avoid strong light exposure to prevent product oxidation.

6.2 Environmental Precautions

- No special environmental precautions; the product is fully biodegradable and non-toxic to the environment; a small amount of spilled liquid can be naturally degraded, no pollution to soil and water.
- Avoid direct discharge of a large amount of spilled liquid into water bodies (may cause mild oil film, which can be removed by adsorption).

6.3 Methods and Materials for Containment and Cleaning Up

- **Small Spill**: Wipe the liquid with absorbent cotton, paper towel or inert materials (sand, diatomite); the absorbed product can be recycled if not contaminated, or disposed of as non-hazardous waste.
- **Large Spill**: Contain the liquid with sandbags or dikes to prevent spreading; transfer the liquid to a sealed light-proof container with a pump, label the container with "Vitamin E-Oil - Non-hazardous"; clean the spill area with a small amount of water and detergent, the cleaning wastewater can be directly discharged into the sewer.

6.4 Reference to Other Sections

For disposal of waste, see Section 13; for storage of the recovered product, see Section 7.

SECTION 7: Handling and Storage

7.1 Precautions for Safe Handling

- Operate in a **cool, dark and well-ventilated area**; avoid strong light, ultraviolet radiation and high temperature (>60℃) during handling to prevent product oxidation and discoloration.
- Use light-proof glass or food-grade HDPE containers for mixing and transfer; avoid contact with strong oxidants (e.g., hydrogen peroxide, potassium permanganate) and strong acids to prevent chemical reaction.
- **Hygiene Measures**: Wash hands with soap and water after handling (for food/cosmetic grade production, follow GMP hygiene requirements); no restrictions on eating/drinking in the workplace if hygiene is maintained.
- For large-scale production, use closed mixing equipment to reduce contact with air and prevent oxidation.

7.2 Conditions for Safe Storage, Including Any Incompatibilities

- **Storage Conditions**: Store in a **cool, dark, dry and well-ventilated warehouse** at 5~25℃; relative humidity ≤60%; avoid direct sunlight, ultraviolet radiation, high temperature (>30℃) and open storage.
- **Packaging**: Keep in the original sealed light-proof container (brown glass bottle/food-grade HDPE drum/iron drum); fill with nitrogen for large packages to isolate oxygen and prevent oxidation.
- **Incompatibilities**: Strong oxidants (hydrogen peroxide, potassium permanganate), strong acids (sulfuric acid, hydrochloric acid), halogens (chlorine, bromine) and high-temperature heat sources.
- **Storage Class (TRGS 510)**: 13 (Non-Hazardous Liquids)
- **Shelf Life**: 24 months (unopened, light-proof, sealed storage at 5~25℃); use within 6 months after opening, reseal tightly and store in a dark place, fill with nitrogen if possible.
- **Other**: Store food/cosmetic/pharm grade products separately from industrial grade products to avoid cross-contamination; keep away from children and pets (to avoid accidental ingestion of large quantities).

SECTION 8: Exposure Controls/Personal Protection

8.1 Control Parameters

- **Occupational Exposure Limit (OEL)**: No national/international OEL for a-Tocopherol; the product is non-toxic, no exposure limit required.
- **Biological Exposure Limit**: No relevant biological exposure limit at present.

8.2 Exposure Controls

- **Engineering Controls**: No special engineering controls required; ensure basic ventilation and light-proof conditions in the operation area; install local exhaust ventilation only if mist is generated during high-speed stirring.
- **Personal Protective Equipment (PPE)**:
  - Eye/Face: Safety glasses recommended for large-scale handling to avoid liquid splashing; no face shield needed under normal conditions.
  - Skin: Nitrile rubber gloves (food-grade for food/cosmetic production) recommended for prolonged contact; no protective clothing required.
  - Respiratory: No respiratory protection needed under normal handling conditions; a dust/mist mask is optional if mist is generated.
  - Other: Disposable hair cap and shoe covers (for food/cosmetic/pharm grade GMP production).
- **Control of Environmental Exposure**: No special environmental exposure controls; the product is biodegradable and non-polluting, no risk of environmental exposure.

SECTION 9: Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

a) Physical State: Clear viscous liquidb) Color: Pale yellow to amberc) Odor: Faint mild nutty characteristic odord) Melting Point/Freezing Point: 2.5 ~ 3.5℃ (solidifies at low temperature, recovers after thawing without performance change)e) Initial Boiling Point and Boiling Range: >300℃ (decomposes before boiling)f) Flammability (Liquid/Gas): Non-flammable (flash point >200℃)g) Upper/Lower Flammability or Explosive Limits: Not applicableh) Flash Point: >200℃ (Closed Cup)i) Autoignition Temperature: >350℃j) Decomposition Temperature: >200℃ (slow oxidation, no hazardous decomposition)k) pH Value (25℃): Not applicable (oil-based, non-aqueous)l) Viscosity (25℃): 80 ~ 120 mPa·sm) Water Solubility: Insoluble in water; miscible with ethanol, ether, chloroform, vegetable oiln) Partition Coefficient (n-octanol/water): log Kow = 10.2 (high oil solubility)o) Vapor Pressure (25℃): <0.001 hPa (very low volatility)p) Specific Gravity (25/25℃): 0.945 ~ 0.955q) Relative Vapor Density: >1 (heavier than air)r) Refractive Index (25℃): 1.494 ~ 1.498s) Explosive Properties: Not explosivet) Oxidizing Properties: None (antioxidant, reducing property)

9.2 Other Safety Information

The product solidifies at low temperature (<2.5℃), which is a physical change; thaw at room temperature (5~25℃) and stir evenly, the performance remains unchanged, no impact on use.

SECTION 10: Stability and Reactivity

10.1 Chemical Stability

Stable under **recommended storage and use conditions (5~25℃, light-proof, sealed)**; no decomposition, no chemical reaction; the antioxidant activity remains stable for a long time.

10.2 Possibility of Hazardous Reactions

No hazardous reactions under normal light-proof, sealed and dry handling/storage conditions; no polymerization risk under any conditions.

10.3 Conditions to Avoid

Strong light/ultraviolet radiation, high temperature (>30℃), long-term contact with air/oxygen, contact with strong oxidants/strong acids/halogens.

10.4 Incompatible Materials

Concentrated sulfuric acid, hydrochloric acid, hydrogen peroxide, potassium permanganate, chlorine gas, bromine water and other strong oxidants/halogens.

10.5 Hazardous Decomposition Products

Slowly oxidizes to tocopheryl quinone (non-toxic) when exposed to air/light/high temperature; decomposes at >300℃ to produce non-toxic carbon dioxide, water vapor and hydrocarbon gases; no hazardous decomposition products.

SECTION 11: Toxicological Information

11.1 Information on Toxicological Effects

- **Acute Toxicity**:
  - Oral (Rat, LD_{50}): > 20,000 mg/kg bw (non-toxic, food-grade nutrient)
  - Dermal (Rabbit, LD_{50}): > 20,000 mg/kg bw (non-toxic, no skin irritation)
  - Inhalation (Rat, LC_{50}): > 10 mg/m³ (4h exposure, vapor) (no inhalation hazard, low volatility)
- **Skin Corrosion/Irritation**: No irritation (Rabbit test, 24h exposure); the product has a moisturizing effect on human skin.
- **Serious Eye Damage/Eye Irritation**: No irritation (Rabbit test); rare mild transient discomfort if splashed into eyes (reversible after flushing).
- **Respiratory or Skin Sensitization**: No skin/respiratory sensitization (Guinea pig test); no allergic reaction to the human body.
- **Germ Cell Mutagenicity**: Ames test negative (no mutagenicity); no genotoxic effect.
- **Carcinogenicity**: IARC Class 3 (not classifiable as carcinogenic to humans); long-term use has no carcinogenic risk, and antioxidant effect can reduce the risk of oxidative damage-induced cancer.
- **Reproductive/Developmental Toxicity**: No reproductive/developmental toxicity in animal studies; appropriate dosage is beneficial to reproductive health (vitamin E is a necessary nutrient for reproduction).
- **Specific Target Organ Toxicity (Single/Repeated Exposure)**: No target organ toxicity; long-term use in specified dosage has nutritional benefits for the human body (antioxidant, protect cell membranes).

- **Aspiration Hazard**: None (high viscosity, low volatility, no aspiration risk under normal use).

11.2 Additional Information

Vitamin E (a-Tocopherol) is a fat-soluble vitamin necessary for the human body, with no toxic effects in the recommended dosage; massive oral ingestion (>10,000 IU/day for a long time) may cause mild gastrointestinal discomfort, which is reversible after stopping use. The product is safe for skin topical use, no irritation or allergic reaction, and has anti-aging and moisturizing effects.

SECTION 12: Ecological Information

12.1 Toxicity

- **Aquatic Organisms (Non-toxic)**:
  - Zebrafish (LC_{50}, 96h): > 5000 mg/L
  - Daphnia (EC_{50}, 48h): > 5000 mg/L
  - Green algae (EC_{50}, 72h): > 5000 mg/L
- **Terrestrial Organisms**: Non-toxic to soil plants, microorganisms and earthworms; can be used as a nutrient for some plants and microorganisms.
- **Other Organisms**: Non-toxic to birds, mammals and pets; accidental ingestion has nutritional benefits, no harmful effects.

12.2-12.7 Ecological Properties

- **Persistence/Degradability**: Fully biodegradable (biodegradation rate >95% in 28d) in aquatic and soil environments; degraded into non-toxic small molecular fatty acids and alcohols by microorganisms, no persistent organic pollution.
- **Bioaccumulative Potential**: No bioaccumulation potential (although it is fat-soluble, it is a natural nutrient and can be metabolized by organisms; no biomagnification in the food chain).
- **Mobility in Soil**: Low mobility; the oil-based liquid is adsorbed by soil organic matter, no leaching into groundwater, and can improve soil fertility to a certain extent.
- **PBT/vPvB Assessment**: Not classified as PBT/vPvB (no persistence, no bioaccumulation, non-toxic).
- **Endocrine Disrupting Properties**: No endocrine disrupting effect (in vitro/in vivo animal tests negative); on the contrary, the antioxidant effect can protect the endocrine system from oxidative damage.
- **Other Adverse Effects**: No known adverse ecological impacts; the product is a natural nutrient, biodegradable, and has no pollution to the environment; it can be used as a feed additive to improve the quality of animal products.

SECTION 13: Disposal Considerations

13.1 Waste Treatment Methods

- **Product Waste/Expired Oil**: Classified as **non-hazardous solid/liquid waste**; a small amount can be directly disposed of with household/industrial waste, or mixed with feed as a nutrient additive; a large amount can be sent to licensed waste treatment facilities for incineration (incineration produces non-toxic gas) or biodegradation.
- **Spill Waste/Absorbent Material**: The absorbed product can be recycled if not contaminated; otherwise, dispose of as non-hazardous waste, which can be naturally degraded in the environment.
- **Packaging Waste**: Rinse the packaging (brown glass bottle/HDPE drum/iron drum) with a small amount of vegetable oil to remove residual product; the clean packaging can be recycled (glass/HDPE/iron) or disposed of as non-hazardous waste; food/cosmetic grade packaging is not reused to avoid cross-contamination.

13.2 Disposal Regulations

Comply with China's **Solid Waste Pollution Prevention and Control Law**, **Water Pollution Prevention and Control Law** and **Food Safety Law (for food grade)**; comply with EU REACH (EC 1907/2006) and US FDA waste disposal regulations; follow local non-hazardous waste disposal standards. Prioritize recycling and reuse of the product and packaging to reduce waste discharge.

SECTION 14: Transport Information

14.1 UN Number

ADR/RID: -; IMDG: -; IATA-DGR: - (non-hazardous goods)

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

1. Transport by **ordinary closed light-proof vehicles**; avoid direct sunlight, ultraviolet radiation and high temperature during transport; transport temperature ≤30℃.
2. Use sealed light-proof packaging (brown glass bottle/food-grade HDPE drum/iron drum); avoid package collision, extrusion and leakage during transport; load and unload gently.
3. Do not transport with strong oxidants, strong acids, halogens and flammable and explosive materials; food/cosmetic/pharm grade products are transported in dedicated clean vehicles to avoid cross-contamination.
4. No special transport qualification required (non-hazardous goods); comply with ordinary food/cosmetic/chemical raw material transport regulations.
5. For low-temperature transport, take thermal insulation measures to prevent product solidification (solidification is a physical change, no impact on use after thawing).

14.7 Incompatible Materials for Transport

Same as Section 7.2; avoid transport with strong oxidants, strong acids and halogens.

SECTION 15: Regulatory Information

15.1 National/International Regulations

- **National Regulations (China)**:
  - GB 14756-2010 (Food Grade Vitamin E)
  - Chinese Pharmacopoeia (2020 Edition, Pharmaceutical Grade)
  - Cosmetic Safety Technical Specifications (2021 Version, Cosmetic Grade)
  - Hazardous Chemical Safety Management Regulation (Non-hazardous classification)
  - Food Safety Law of the People's Republic of China
- **International Regulations**:
  - EU REACH (EC 1907/2006): Listed in TSCA Inventory, no SVHC
  - EU Cosmetics Regulation (EC 1223/2009): Approved cosmetic raw material
  - US FDA: GRAS (Generally Recognized As Safe) food additive, approved pharmaceutical/cosmetic raw material
  - GHS Rev.9: Non-hazardous classification
  - IMDG/IATA: Non-hazardous goods for transport
- **Other Standards**: ISO 9001 (quality management); ISO 14001 (environmental management); ISO 22000 (food safety management); ISO 22716 (cosmetic GMP).

15.2 Other Requirements

- The product label/packaging must be marked with product name, grade, batch number, shelf life, dosage, usage method and manufacturer information in accordance with food/cosmetic/pharmaceutical regulations; food grade products must be marked with "Food Additive" logo.
- All batch production records, test reports and COA must be retained for ≥5 years in accordance with regulatory requirements; food/cosmetic/pharm grade production workshops must meet GMP clean standards.
- The production process complies with environmental protection requirements, no waste gas, wastewater and solid waste discharge exceeding the standard; the product meets the international antioxidant quality standards for food/cosmetic/pharmaceutical use.

SECTION 16: Other Information

16.1 Further Information

This MSDS is based on current scientific and industrial knowledge, complying with GB/T 16483, GB/T 17519, GHS Rev.9 and international food/cosmetic/pharmaceutical safety standards. It is intended for the safe handling, storage, transport and disposal of the product. The supplier is not liable for any damage caused by improper handling, non-compliance with

storage/transport/disposal requirements, unauthorized use or use beyond the specified dosage.

16.2 MSDS Validity

This MSDS is valid for 3 years from the revision date (22 FEB 2026) unless the product formula, production process or hazard information changes.

16.3 Technical Support

For product application (formulation optimization, dosage adjustment, antioxidant scheme design) and grade customization, contact the food/cosmetic technical department at +86-021-50350029 ext. 870 (for licensed manufacturers and research institutions only).

16.4 Key Reminder

This product is a natural fat-soluble vitamin with high purity and multiple grades, non-toxic and safe for use in specified dosage. Strictly follow the light-proof and sealed storage requirements to prevent oxidation; avoid contact with strong oxidants and strong acids; food/cosmetic/pharm grade products are used separately to avoid cross-contamination; the product solidifies at low temperature, which is a normal physical change, and can be thawed at room temperature for use without affecting performance.