



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)

Ethyl Oleate (111-62-6)

Revision Date: 25 FEB 2026

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

1.1 Product Identifiers

- Product Name: Ethyl Oleate
- Product Number: EO-20260225
- Brand: SIGALD
- CAS-No.: 111-62-6
- Synonyms: Oleic acid ethyl ester; (Z)-9-Octadecenoic acid ethyl ester
- EINECS/EC-No.: 203-889-5

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
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1.3 Emergency telephone

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

1.4 Relevant Identified Uses and Uses Advised Against

- Identified Uses: Food additive (emulsifier, plasticizer); cosmetic raw material (emollient, moisturizer); pharmaceutical excipient; industrial lubricant; plasticizer for polymers; textile softener.
- Uses Advised Against: Not for direct oral consumption in excessive quantities; avoid use in high-temperature open flame environments without protection; not for medical injection use.

SECTION 2: Hazards Identification

| Summary of Emergency Measures | Pale yellow clear oily liquid with mild fatty ester odor.

Combustible liquid; may cause mild skin irritation in sensitive individuals with prolonged contact; may cause slight eye irritation if splashed into eyes. After inhalation: Move to fresh air and rest.

In case of skin contact: Rinse with plenty of water and soap for 5 minutes. After eye contact: Rinse with plenty of water for 10 minutes; consult a doctor if irritation persists. After swallowing: Rinse mouth with water, do not induce vomiting; seek medical advice if unwell. Keep away from fire and heat sources. | | --- |

2.1 GHS Classification

- Flammable liquids (Category 4)
- Skin irritation (Category 2, mild, prolonged contact/sensitive individuals)
- Serious eye irritation (Category 2, mild, splashing/sensitive individuals)

2.2 GHS Label Elements



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- Hazard Pictogram: (Exclamation mark)
- Signal Word: **Warning**
- Hazard Statements:
 - H227: Combustible liquid
 - H315: May cause skin irritation
 - H319: May cause serious eye irritation
- Precautionary Statements:
 - P210: Keep away from heat, sparks, open flames and hot surfaces. No smoking.
 - P264: Wash skin thoroughly after handling
 - P280: Wear protective gloves/eye protection when handling
 - P302+P352: If on skin: Wash with plenty of water and soap
 - P305+P351+P338: If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing
 - P312: Call a POISON CENTER or doctor/physician if you feel unwell
 - P362+P364: Take off contaminated clothing and wash it before reuse
 - P501: Dispose of contents/container to an approved waste disposal plant

2.3 Physical and Chemical Hazards Combustible liquid (flash point $\geq 186^{\circ}\text{C}$); very low volatility, vapor may form flammable mixtures with air in high concentration and high temperature; no explosive properties under normal conditions; stable under recommended storage conditions, no hazardous decomposition at normal temperature.

2.4 Health Hazards

- Acute: High-concentration vapor inhalation causes mild throat dryness; prolonged skin contact may cause slight redness and dryness in sensitive individuals; eye splashing causes mild redness and tearing in sensitive individuals; accidental swallowing causes mild gastrointestinal discomfort (nausea, abdominal distension).
- Chronic: Prolonged repeated skin contact may cause mild chronic dry dermatitis in sensitive individuals; long-term inhalation of low-concentration vapor has no known persistent adverse effects; no carcinogenic, mutagenic or reproductive toxic effects in occupational exposure limits.

2.5 Environmental Hazards Low acute toxicity to aquatic organisms (Zebrafish 96h $\text{LC}_{50} = 1500$ -2000 mg/L); fully biodegradable in natural environment ($\text{BOD}_5 / \text{COD} = 0.82$); very low bioaccumulation potential; avoid direct large-scale discharge into water bodies, soil or sewage systems.

2.6 Other Hazards Vapor is slightly heavier than air and may accumulate in low-lying areas with poor ventilation at high temperature; no other additional hazards identified.

SECTION 3: Composition/Information on Ingredients



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- Substance / Mixture: **Pure Substance** | Component | CAS-No. | Formula | Concentration (w/w) | Classification | |---|---|---|---|---| | Ethyl Oleate | 111-62-6 | C₂₀ H₃₈ O₂ | ≥98.0% (Food/Cos ≥99.0%) | H227, H315, H319 |

SECTION 4: First Aid Measures

4.1 Description of First-Aid Measures

- If Inhaled: Immediately move the victim to fresh, well-ventilated air. Loosen tight clothing to ensure unobstructed breathing. Let the victim rest in a comfortable position. No special treatment is needed if no discomfort; call a doctor if cough or chest tightness persists.
- In Case of Skin Contact: Immediately remove contaminated clothing and gloves. Rinse the affected skin with plenty of running water and neutral soap for at least 5 minutes. Pat dry gently; apply mild moisturizer if dryness occurs. Seek medical attention if redness or itching appears.
- In Case of Eye Contact: Hold the eyelids open and rinse the eyes continuously with clean running water for at least 10 minutes, flushing the entire eye surface. Do not rub the eyes. Remove contact lenses only if it can be done easily. Consult a doctor if irritation or blurred vision persists for more than 24 hours.
- If Swallowed: Rinse the mouth with plenty of clean water (do not swallow). Do not induce vomiting (risk of aspiration into the respiratory tract). If the victim is conscious, drink a small amount of warm water to dilute the substance. Call a POISON CENTER or doctor if gastrointestinal discomfort (nausea, abdominal pain) occurs.

4.2 Most Important Symptoms and Effects, Both Acute and Delayed

- Acute: Mild skin/eye irritation (sensitive individuals/prolonged contact only), slight respiratory tract irritation, mild gastrointestinal discomfort; all symptoms are reversible with prompt treatment.
- Delayed: Transient skin dryness or slight peeling (1-2 days after prolonged contact in sensitive individuals); no long-term permanent organ damage reported.

4.3 Indication of Any Immediate Medical Attention and Special Treatment Needed No specific antidote available; treat symptomatically. Seek urgent medical attention only for accidental large-dose swallowing or severe persistent eye irritation with corneal redness in sensitive individuals.

SECTION 5: Firefighting Measures

5.1 Extinguishing Media

- Suitable: Carbon dioxide (CO₂), dry chemical powder, foam, alcohol-resistant fire extinguishing agent.
- Unsuitable: Do not use a direct high-pressure water jet (may spread the fire and dilute the product into flammable mixtures).

5.2 Special Hazards Arising from the Substance or Mixture Combustible oily liquid with very low volatility; burning produces mild toxic smoke (carbon monoxide, fatty hydrocarbon vapors);

vapor may spread to fire source and cause backfire at high temperature; no explosive decomposition during combustion.

5.3 Advice for Firefighters

- Wear self-contained breathing apparatus (SCBA) and full fire-fighting protective gear (fire-resistant suit, chemical-resistant gloves, goggles).
- Keep a safe distance from the fire scene; cool the burning and surrounding containers with water spray to prevent thermal expansion and rupture.
- Prevent fire-extinguishing wastewater from entering municipal sewers, rivers, lakes or other water bodies.
- Extinguish the fire from the upwind direction; eliminate all ignition sources in the fire scene and surrounding area.

SECTION 6: Accidental Release Measures

6.1 Personal Precautions, Protective Equipment and Emergency Procedures Wear basic personal protective equipment (chemical-resistant goggles, nitrile rubber gloves, organic vapor respirator for high temperature). Eliminate all ignition sources (turn off electrical equipment, no smoking) in the spill area. Ensure good ventilation; evacuate non-essential personnel to a safe upwind area. Avoid inhaling vapor and direct skin/eye contact; do not walk through or touch the spilled oily liquid.

6.2 Environmental Precautions Prevent the spilled liquid from entering sewers, storm drains, rivers, lakes, soil or groundwater. Build dikes with inert materials (sand, vermiculite, diatomite) to contain the spilled liquid for small/medium spills.

6.3 Methods and Materials for Containment and Cleaning Up

- Small Spill: Absorb the spilled oily liquid with inert absorbent materials (diatomite, activated carbon, oil-absorbing cotton); collect the absorbent into a sealed HDPE container with hazard labels; wipe the spill area with ethanol and dispose of the waste cloth in the same container.
 - Large Spill: Contain the liquid with dikes and sandbags; transfer the spilled liquid to a sealed HDPE drum with a pump; clean the remaining liquid with oil-absorbing materials and dispose of all waste as hazardous waste.
- 6.4 Reference to Other Sections For waste disposal, see Section 13; for personal protection, see Section 8.

SECTION 7: Handling and Storage

7.1 Precautions for Safe Handling Operate in a well-ventilated area with explosion-proof electrical equipment and local exhaust ventilation (for vapor collection at high temperature). Wear specified PPE for all operations. Eliminate all ignition sources in the working area; no smoking, open flames or hot surfaces. Avoid generating vapor, spray or mist; use closed transfer systems for bulk handling. Do not mix with strong oxidizing agents, strong acids or strong alkalis. Wash hands, face and exposed skin thoroughly with soap and water after handling; do not eat, drink or smoke in the working area.

7.2 Conditions for Safe Storage

- Storage Conditions: Store in a cool, dry, well-ventilated and explosion-proof warehouse. Temperature $\leq 25^{\circ}\text{C}$, relative humidity $\leq 60\%$. Keep the container tightly sealed with a screw cap to prevent vapor volatilization and contamination; store in original HDPE or amber glass containers (for light protection). Keep away from fire, heat sources, direct sunlight and electrical equipment.
- Incompatibilities: Strong oxidizing agents (H_2O_2 , KMnO_4 , chlorine), strong mineral acids (HCl , H_2SO_4), strong alkalis (NaOH , KOH), halogens, peroxides.
- Storage Class (TRGS 510): 3 (Flammable Liquids, Category 4)
- Shelf Life: **24 months (unopened, under specified storage conditions)**
- Segregation: Store separately from incompatible materials in a dedicated explosion-proof storage area with anti-leakage trays and fire-fighting equipment; keep a minimum distance of 3 meters from heat sources and ignition sources; mark clear hazard labels (combustible liquid, mild eye/skin irritation) on the storage area and containers.

SECTION 8: Exposure Controls/Personal Protection

8.1 Control Parameters

- Occupational Exposure Limit (OEL) for Ethyl Oleate: TWA 50 ppm ($645 \text{ mg}/\text{m}^3$, 8-hour, ACGIH); STEL 100 ppm ($1290 \text{ mg}/\text{m}^3$, 15-minute, ACGIH)
- Biological Limit Value (BLV): N/A

8.2 Exposure Controls

- Engineering Controls: Explosion-proof electrical equipment and lighting; local exhaust ventilation system (air exchange rate ≥ 8 times/hour) for vapor collection; fire-fighting equipment (CO_2 fire extinguisher, foam fire extinguisher) in the working area; vapor concentration detection alarm (set alarm limit at 50 ppm).
- Personal Protective Equipment (PPE) - **MANDATORY for all operations:**
 - Eye/Face Protection: Chemical-resistant safety goggles for routine handling; full face shield for bulk operations or spill cleanup.
 - Skin Protection: Nitrile rubber gloves (thickness $\geq 0.30 \text{ mm}$), chemical-resistant neoprene apron; replace gloves immediately if damaged or contaminated.
 - Respiratory Protection: Organic vapor respirator (OV cartridge) for routine operations at high temperature; full-face SCBA with organic vapor filter for confined space or large spill emergency.
 - Other: Anti-static work shoes, fire-resistant work clothes; keep emergency eye wash station and safety shower within 10 meters of the work area.

SECTION 9: Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Propertiesa) Physical State: Clear oily liquidb) Color: Pale yellow to light amberg) Odor: Characteristic mild fatty ester, faint vegetable oil-like odord) Melting Point/Freezing Point: -32°C e) Boiling Point: $205\text{-}210^{\circ}\text{C}$ (10 mmHg); 386°C (760 mmHg)f) Flammability (Liquid/Gas): Combustible liquid (Category 4)g) Upper/Lower

Flammability or Explosive Limits: Lower: 0.4% (v/v); Upper: 3.5% (v/v) (200°C)h) Flash Point: 186°C (Closed Cup)i) Autoignition Temperature: 420°Cj) Decomposition Temperature: ≥250°C (no hazardous decomposition)k) pH Value: Neutral (6.8-7.4, 25°C, 1% aqueous emulsion)l) Viscosity (25°C): 6.0-8.0 mPa·sm) Water Solubility: Insoluble in water; miscible with ethanol, ether, chloroform, vegetable oil, mineral oil and most organic solventsn) Partition Coefficient (log P, n-octanol/water): 8.95 (25°C)o) Vapor Pressure (25°C): 0.0001 kPa (extremely low volatility)p) Relative Density (20/20°C): 0.865-0.875q) Relative Vapor Density (air=1): 10.71r) Evaporation Rate (butyl acetate=1): <0.001 (extremely slow evaporation)s) Explosive Properties: No explosive properties under normal conditionst) Oxidizing Properties: None

9.2 Other Safety InformationNo crystallization at normal low temperature (> -32°C); extremely low volatility ensures excellent emollient and moisturizing effect in cosmetic formulations; compatible with most food, cosmetic, pharmaceutical and industrial raw materials under normal formulation conditions (pH 5.0-9.0).

SECTION 10: Stability and Reactivity

10.1 Chemical Stability: Stable under the recommended storage and handling conditions (≤25°C, sealed, away from light and ignition sources); no chemical changes under normal industrial processing conditions (≤120°C); stable in food/cosmetic/pharmaceutical formulations with pH 5.0-9.0 for 12 months.10.2 Possibility of Hazardous Reactions: No hazardous reactions under normal use and processing conditions; reacts slowly with strong oxidizing agents/strong acids/strong alkalis at high temperature (>250°C) to produce mild toxic byproducts; no hazardous polymerization occurs under any conditions.10.3 Conditions to Avoid: High temperature (>250°C), direct sunlight, open flame, heat sources, contact with incompatible materials, prolonged exposure to air (may cause slight oxidation).10.4 Incompatible Materials: Strong oxidizing agents, strong mineral acids, strong alkalis, halogens, peroxides, strong reducing agents.10.5 Hazardous Decomposition Products: Carbon monoxide (CO), carbon dioxide (CO₂), fatty hydrocarbon vapors (high-temperature decomposition/combustion); no other hazardous decomposition products.

SECTION 11: Toxicological Information

11.1 Information on Toxicological Effects

- Acute Toxicity:
 - Oral (Rat, LD₅₀): >5000 mg/kg (Very low toxic)
 - Dermal (Rabbit, LD₅₀): >5000 mg/kg (Very low toxic)
 - Inhalation (Rat, LC₅₀): >5000 mg/m³ (4-hour vapor exposure) (Very low toxic)
- Skin Corrosion/Irritation: Rabbit 4-hour closed patch test - mild erythema in sensitive individuals with prolonged contact (Category 2), reversible with proper treatment; no irritation in normal individuals with short contact.

- Serious Eye Damage/Irritation: Rabbit eye test - slight conjunctival redness in sensitive individuals if splashed (Category 2), reversible with prompt flushing; no irritation in normal conditions.
- Respiratory or Skin Sensitization: No sensitizing effects (human and animal tests).
- Germ Cell Mutagenicity: Ames test, chromosome aberration test - negative; no mutagenic effects.
- Carcinogenicity: IARC Classification - Group 3 (not classifiable as to carcinogenicity to humans); no carcinogenic effects in long-term animal tests.
- Reproductive Toxicity: No adverse reproductive or developmental effects in animal tests at occupational exposure doses; no teratogenic or embryotoxic effects.
- Specific Target Organ Toxicity (Repeated Exposure): 90-day repeated inhalation test - no target organ damage even at high concentration; no chronic toxic effects.
- Aspiration Hazard: Very low (oily liquid, extremely low volatility, high flash point).

SECTION 12: Ecological Information

12.1 Toxicity

- Fish (Zebrafish, 96h LC₅₀): 1850 mg/L (oil-in-water emulsion)
- Daphnia (48h EC₅₀): 1600 mg/L (oil-in-water emulsion)
- Freshwater Algae (72h EC₅₀): 1900 mg/L (oil-in-water emulsion)

12.2 Persistence and Degradability: Fully biodegradable (BOD₅ /COD = 0.82); degraded by microbial action in natural environment within 4-6 days; no persistent environmental residues.

12.3 Bioaccumulative Potential: Very low (log P=8.95, high molecular weight limits

bioaccumulation); no biomagnification in the food chain.

12.4 Mobility in Soil: Low mobility; easily adsorbed to soil organic matter, no leaching risk to groundwater at normal use

concentrations.

12.5 PBT/vPvB Assessment: Not classified as PBT/vPvB substances (no persistence, very low bioaccumulation, low aquatic toxicity).

12.6 Other Adverse Effects: No known adverse effects on soil microorganisms or terrestrial ecosystems at normal environmental concentrations; excessive discharge may cause temporary oil film on water surface (no long-term harm).

SECTION 13: Disposal Considerations

13.1 Waste Treatment Methods

- Product Waste: Expired/contaminated Ethyl Oleate is classified as **hazardous waste (combustible oily liquid, mild toxicity)**; dispose of by licensed hazardous waste treatment facilities via incineration ($\geq 800^{\circ}\text{C}$) with flue gas treatment (to remove fatty hydrocarbons). Do not discharge to the environment directly.
- Packaging Waste: Rinse packaging with a small amount of ethanol (collect rinsing waste as hazardous waste); dispose of contaminated packaging as hazardous waste; recycle clean and uncontaminated HDPE/glass packaging after thorough cleaning and testing.



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- Spill Waste: Contaminated absorbent materials, cleaning tools and waste liquid are hazardous waste; collect and dispose of by licensed hazardous waste treatment companies in accordance with local regulations.
- Disposal Compliance: Comply with China HW08 (Waste Mineral Oil and Hazardous Waste Oil), EU EWC 080101, US RCRA Subtitle C (Hazardous Waste).

SECTION 14: Transport Information

14.1 UN Number: ADR/RID: 3082; IMDG: 3082; IATA-DGR: 3082
14.2 UN Proper Shipping Name: ADR/RID: Environmentally hazardous substance, liquid, n.o.s. (Ethyl Oleate); IMDG: Environmentally hazardous substance, liquid, n.o.s. (Ethyl Oleate); IATA-DGR: Environmentally hazardous substance, liquid, n.o.s. (Ethyl Oleate)
14.3 Transport Hazard Class(es): ADR/RID: 9; IMDG: 9; IATA-DGR: 9
14.4 Packaging Group: ADR/RID: III; IMDG: III; IATA-DGR: III
14.5 Environmental Hazards: IMDG Marine Pollutant: **Yes (minor)**
14.6 Special Precautions for Transport
Transport in sealed HDPE plastic drums or amber glass bottles with anti-leakage and anti-static caps; fill the container with inert gas (nitrogen) for bulk transport to prevent oxidation and vapor volatilization. Transport temperature $\leq 30^{\circ}\text{C}$, avoid direct sunlight, heat sources and open flames; the transport vehicle must be explosion-proof with anti-static ground wire and fire-fighting equipment (CO_2 /foam fire extinguisher). Do not transport with strong oxidizing agents, strong acids, strong alkalis or food/cosmetic raw materials; transport in a dedicated compartment with anti-leakage trays; no mixed loading of other hazard classes. Comply with ADR/RID, IMDG Code and IATA-DGR regulations for Class 9 hazardous substances; provide MSDS/COA for customs clearance and transport documentation.

SECTION 15: Regulatory Information

15.1 National/International Regulations

- China: Hazardous Chemicals Safety Management Regulation (Class 9 Environmentally Hazardous Substance); National Food Safety Standard (GB 2760-2021, approved as food additive); Cosmetic Raw Material Safety Specification (2021); Fatty Acid Ester Industrial Standard.
- EU: REACH (Annex XVII compliant, not in SVHC Candidate List); CLP (GHS Classification - Warning); Food Additive Regulation (EC 1333/2008, approved as food additive); Cosmetic Regulation (EC 1223/2009); ADR/RID Class 9 Transport Regulation.
- US: TSCA (listed on the TSCA Inventory); FDA GRAS (Generally Recognized As Safe) for food use; FDA Cosmetic Ingredient Review (CIR) approved; OSHA Hazard Communication Standard (29 CFR 1910.1200); DOT Class 9 Transport Regulation.
- International: ISO 9001 (Quality); ISO 14001 (Environment); FAO/WHO Food Additive Standards; Codex Alimentarius Commission Standards.

15.2 Additional Regulatory Requirements Provide English MSDS/COA for customs clearance and transport; mark **Class 9 Environmentally Hazardous Substance, FOR**

FOOD/COSMETIC/PHARMACEUTICAL/INDUSTRIAL USE ONLY, KEEP AWAY FROM FIRE on all



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product documents and packaging; comply with food/cosmetic additive dosage limits (GB 2760, EU 1333/2008); label products with combustible, eye/skin irritation warnings for industrial use; attach marine pollutant label for sea transport.

SECTION 16: Other Information

- Further Information: This MSDS complies with GB/T 16483, GB/T 17519 and GHS Rev.9 standards, and is for professional use only by trained personnel (production, storage, transport and disposal). Key characteristic: **Ethyl Oleate (≥98.0%) pale yellow oily liquid, Class 4 combustible liquid/Class 9 environmentally hazardous substance, mild skin/eye irritation in sensitive individuals, mild fatty ester odor, for food additive, cosmetic emollient, pharmaceutical excipient and industrial lubricant use.**
- Revision Date: 25 FEB 2026

