



# 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)

### Trans-Anethole (104-46-1)

Revision Date: 20 FEB 2026

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

#### 1.1 Product Identifiers

- Product Name: Trans-Anethole
- Product Number: TA-20260220
- Brand: SIGALD
- CAS-No.: 104-46-1
- Synonyms: trans-1-Methoxy-4-propenylbenzene; trans-p-Propenylanisole; Anethole trans isomer
- EINECS/EC-No.: 203-205-7

#### 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 and Uses Advised Against

- Identified Uses: Food additive (flavor and fragrance); cosmetic raw material (perfume); pharmaceutical intermediate; industrial aromatic chemical; flavor synthesis raw material.
- Uses Advised Against: Not for direct oral consumption in large quantities; avoid use in high-temperature open flame environments without protection; not for medical injection use.

### SECTION 2: Hazards Identification

| Summary of Emergency Measures | Colorless transparent liquid with characteristic anise fragrance. Flammable liquid; causes mild skin irritation and moderate eye irritation; may cause respiratory irritation if inhaled in high concentration. After inhalation: Move to fresh air, rest. In case of skin contact: Rinse with plenty of water for 10 minutes. After eye contact: Rinse with plenty of water for 15 minutes, call a doctor if irritation persists. After swallowing: Rinse mouth with water, do not induce vomiting; seek medical advice immediately. Keep away from fire and heat sources. | |---|

#### 2.1 GHS Classification

- Flammable liquids (Category 4)
- Skin irritation (Category 2)
- Serious eye irritation (Category 2)
- Specific target organ toxicity - single exposure (respiratory tract irritation, Category 3)

#### 2.2 GHS Label Elements



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- Hazard Pictogram: (Exclamation mark)
- Signal Word: **Warning**
- Hazard Statements:
  - H227: Combustible liquid
  - H315: Causes skin irritation
  - H319: Causes serious eye irritation
  - H335: May cause respiratory irritation
- Precautionary Statements:
  - P210: Keep away from heat, sparks, open flames and hot surfaces. No smoking.
  - P261: Avoid breathing vapors/spray
  - P264: Wash skin thoroughly after handling
  - P280: Wear protective gloves/eye protection/face protection
  - 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
  - P304+P340: If inhaled: Remove person to fresh air and keep comfortable for breathing
  - 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  $\geq 90^{\circ}\text{C}$ ); vapor may form flammable mixtures with air in high concentration; no explosive properties under normal conditions; stable under recommended storage conditions, no hazardous decomposition at normal temp.

### 2.4 Health Hazards

- Acute: High-concentration vapor inhalation causes cough, throat and respiratory tract irritation; skin contact causes mild redness, itching and irritation; eye contact causes moderate redness, tearing and blurred vision; accidental swallowing causes nausea, abdominal discomfort and gastrointestinal irritation.
- Chronic: Prolonged repeated skin contact may cause mild chronic dermatitis; long-term inhalation of low-concentration vapor may cause persistent mild respiratory tract irritation; no known carcinogenic, mutagenic or reproductive toxic effects in occupational exposure limits.

2.5 Environmental Hazards Mild acute toxicity to aquatic organisms (Zebrafish 96h  $\text{LC}_{50} = 100\text{-}500\text{ mg/L}$ ); fully biodegradable in natural environment ( $\text{BOD}_5 / \text{COD} = 0.65$ ); low bioaccumulation potential; avoid direct large-scale discharge into water bodies or soil.

2.6 Other Hazards No additional hazards identified; vapor is slightly heavier than air and may accumulate in low-lying areas.

### SECTION 3: Composition/Information on Ingredients



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- Substance / Mixture: **Pure Substance** | 3.1 Main Component | Trans-Anethole | | --- | ---  
| | Formula | C<sub>10</sub> H<sub>12</sub>O | | Molecular Weight | 148.20 g/mol | | CAS-No.: | 104-46-1 | | EC-No.: | 203-205-7 | | Concentration (w/w) | ≥ 99.0% (Food/Cosmetic grade ≥99.5%) | | Hazard Classification | H227, H315, H319, H335 |

### 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 semi-recumbent position. Call a doctor if cough, chest tightness or shortness of breath persists.
- In Case of Skin Contact: Immediately remove all contaminated clothing, gloves and shoes. Rinse the affected skin with plenty of running water and mild neutral soap for at least 10 minutes. Pat dry gently; do not apply any ointment or cream without medical advice. Seek medical attention if redness, itching or blistering occurs.
- In Case of Eye Contact: Hold the eyelids open and rinse the eyes continuously with clean running water for at least 15 minutes, flushing the entire eye surface (including under the eyelid and corner of the eye). Do not rub the eyes or use eye drops. Remove contact lenses only if it can be done easily without additional damage. Consult an ophthalmologist immediately if irritation, redness or blurred vision persists.
- If Swallowed: Rinse the mouth with plenty of clean water (do not swallow). Do not induce vomiting (risk of aspiration). If the victim is conscious and alert, drink a small amount of water to dilute the substance. Call a POISON CENTER or doctor immediately, even if no discomfort is felt.

#### 4.2 Most Important Symptoms and Effects, Both Acute and Delayed

- Acute: Respiratory tract irritation, mild skin irritation, moderate eye irritation, mild gastrointestinal discomfort.
- Delayed: Minor skin peeling (1-2 days after contact), persistent eye redness (up to 48 hours); no long-term permanent organ damage with prompt and proper treatment.

4.3 Indication of Any Immediate Medical Attention and Special Treatment Needed No specific antidote available; treat symptomatically. Seek urgent medical attention for accidental large-dose swallowing, severe eye irritation or respiratory tract irritation with shortness of breath.

### SECTION 5: Firefighting Measures

#### 5.1 Extinguishing Media

- Suitable: Carbon dioxide (CO<sub>2</sub>), 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 liquid; burning produces mild toxic smoke (carbon monoxide, aromatic hydrocarbons); vapor may spread to fire source and cause backfire; 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, 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 or other water bodies.
- Extinguish the fire from the upwind direction; eliminate all ignition sources in the fire scene.

## SECTION 6: Accidental Release Measures

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

6.2 Environmental Precautions Prevent the spilled liquid from entering sewers, rivers, lakes, soil or storm drains. Build dikes with inert materials (sand, vermiculite) to contain the spilled liquid for small/medium spills; use oil booms for large spills in water bodies.

### 6.3 Methods and Materials for Containment and Cleaning Up

- Small Spill: Absorb the spilled liquid with inert absorbent materials (activated carbon, diatomite, sand); 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; transfer the spilled liquid to a sealed HDPE drum with an explosion-proof pump; clean the remaining liquid with absorbent materials and dispose of 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 (to remove vapor). Wear specified PPE for all operations. Eliminate all ignition sources in the working area; no smoking, open flames or hot surfaces. Avoid generating vapor or spray; 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 glass containers



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(amber glass 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 acids (HCl,  $H_2SO_4$ ), strong alkalis (NaOH, KOH), halogens.
- 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, eye/skin irritation) on the storage area and containers.

## SECTION 8: Exposure Controls/Personal Protection

### 8.1 Control Parameters

- Occupational Exposure Limit (OEL) for Trans-Anethole: TWA 50 ppm ( $300\text{ mg/m}^3$ , 8-hour, ACGIH); STEL 100 ppm ( $600\text{ mg/m}^3$ , 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  $\geq 10$  times/hour) for vapor collection; fire-fighting equipment ( $CO_2$  fire extinguisher, foam fire extinguisher) in the working area.
- Personal Protective Equipment (PPE) - **MANDATORY for all operations:**
  - Eye/Face Protection: Chemical-resistant safety goggles + face shield (mandatory) for all handling; anti-fog goggles for bulk operations.
  - Skin Protection: Nitrile rubber gloves (thickness  $\geq 0.40$  mm), chemical-resistant neoprene apron, disposable arm sleeves; replace gloves immediately if damaged or contaminated.
  - Respiratory Protection: Organic vapor respirator (OV cartridge) for routine operations; full-face SCBA with organic vapor filter for confined space or large spill emergency.
  - Other: Anti-static work shoes, fire-resistant work clothes; no synthetic fiber clothing (avoid static electricity); 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: Liquid (crystallizes at  $<21^\circ\text{C}$ )b) Color: Colorless to pale yellowc) Odor: Characteristic sweet anise/star anise fragranced) Melting Point/Freezing Point:  $21\text{-}23^\circ\text{C}$ e) Boiling Point:  $234\text{-}237^\circ\text{C}$ f) Flammability (Liquid/Gas): Combustible liquid (Category 4)g) Upper/Lower Flammability or Explosive Limits: Lower: 0.8% (v/v); Upper: 6.0% (v/v) ( $20^\circ\text{C}$ )h) Flash Point:  $92^\circ\text{C}$  (Closed Cup)i) Autoignition Temperature:  $475^\circ\text{C}$ j) Decomposition Temperature:  $\geq 200^\circ\text{C}$  (no hazardous decomposition)k) pH Value: Neutral (7.0,  $25^\circ\text{C}$ )l) Viscosity ( $25^\circ\text{C}$ ): 2.5-3.0 mPa·sm) Water Solubility: Slightly soluble in water; miscible with ethanol, ether, vegetable oil and most organic solventsn) Partition

Coefficient (log P, n-octanol/water): 3.35 (25°C) o Vapor Pressure (25°C): 0.02 kPap) Relative Density (20/20°C): 0.988-0.992q) Relative Vapor Density (air=1): 5.11r) Evaporation Rate (butyl acetate=1): 0.01s) Explosive Properties: No explosive properties under normal conditionst) Oxidizing Properties: None

9.2 Other Safety Information Crystallizes at low temperature (<21°C), can be melted by gentle heating (30-40°C) without affecting purity and activity; vapor is slightly heavier than air and may accumulate in low-lying areas (basements, tanks).

## SECTION 10: Stability and Reactivity

10.1 Chemical Stability: Stable under the recommended storage and handling conditions ( $\leq 25^{\circ}\text{C}$ , sealed, away from light and ignition sources); no chemical changes under normal industrial processing conditions ( $\leq 80^{\circ}\text{C}$ ); stable in food/cosmetic formulations with pH 5.0-8.0 for 12 months. 10.2 Possibility of Hazardous Reactions: No hazardous reactions under normal use and processing conditions; reacts violently with strong oxidizing agents/strong acids/strong alkalis to produce mild toxic byproducts; no hazardous polymerization occurs under any conditions. 10.3 Conditions to Avoid: High temperature ( $>200^{\circ}\text{C}$ ), direct sunlight, open flame, heat sources, contact with incompatible materials, high-concentration vapor accumulation. 10.4 Incompatible Materials: Strong oxidizing agents, strong mineral acids, strong alkalis, halogens, peroxides. 10.5 Hazardous Decomposition Products: Carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>), aromatic 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, LD<sub>50</sub>): 2000 mg/kg (Moderate toxic)
  - Dermal (Rabbit, LD<sub>50</sub>): >5000 mg/kg (Low toxic)
  - Inhalation (Rat, LC<sub>50</sub>): 3000 mg/m<sup>3</sup> (4-hour vapor exposure) (Low toxic)
- Skin Corrosion/Irritation: Rabbit 4-hour closed patch test - mild erythema and edema (Category 2), reversible with proper treatment.
- Serious Eye Damage/Irritation: Rabbit eye test - moderate conjunctival redness, corneal opacity and tearing (Category 2), reversible with prompt flushing and treatment.
- 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.



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- Specific Target Organ Toxicity (Repeated Exposure): 90-day repeated inhalation test - mild respiratory tract irritation at high concentration; no target organ damage at recommended OEL.
- Aspiration Hazard: Low (low viscosity, high flash point; no aspiration risk under normal handling).

### SECTION 12: Ecological Information

#### 12.1 Toxicity

- Fish (Zebrafish, 96h LC<sub>50</sub>): 350 mg/L (aqueous solution)
  - Daphnia (48h EC<sub>50</sub>): 200 mg/L (aqueous solution)
  - Freshwater Algae (72h EC<sub>50</sub>): 400 mg/L (aqueous solution)
- 12.2 Persistence and Degradability: Fully biodegradable (BOD<sub>5</sub>/COD = 0.65); degraded by microbial action in natural environment within 7-10 days; no persistent environmental residues.
- 12.3 Bioaccumulative Potential: Low (log P=3.35); slight bioaccumulation in aquatic organisms, 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, low bioaccumulation, mild 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 water body odor pollution.

### SECTION 13: Disposal Considerations

#### 13.1 Waste Treatment Methods

- Product Waste: Expired/contaminated Trans-Anethole is classified as **hazardous waste (combustible liquid, mild toxicity)**; dispose of by licensed hazardous waste treatment facilities via incineration (≥800°C) with flue gas treatment (to remove aromatic 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.
- 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 HW06 (Organic Solvent Waste), EU EWC 030206, US RCRA Subtitle C (Hazardous Waste).

### SECTION 14: Transport Information

14.1 UN Number: ADR/RID: 1993; IMDG: 1993; IATA-DGR: 1993

14.2 UN Proper Shipping Name: ADR/RID: Flammable liquid, n.o.s. (Trans-Anethole); IMDG: Flammable liquid, n.o.s. (Trans-Anethole); IATA-DGR: Flammable liquid, n.o.s. (Trans-Anethole)

14.3 Transport Hazard Class(es): ADR/RID: 3; IMDG: 3; IATA-DGR: 3

14.4 Packaging Group: ADR/RID: III; IMDG: III; IATA-DGR: III

14.5 Environmental Hazards: IMDG Marine Pollutant: **No**

14.6 Special Precautions for

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 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. Do not transport with strong oxidizing agents, strong acids, strong alkalis or food/cosmetic raw materials; transport in a dedicated compartment of Class 3 flammable liquid transport vehicles with no mixed loading of other hazard classes. Comply with ADR/RID, IMDG Code and IATA-DGR regulations for Class 3 flammable liquids; 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 3 Flammable Liquid); National Food Safety Standard (GB 2760-2021, approved as food flavor); Cosmetic Raw Material Safety Specification (2021); Pharmaceutical Intermediate Quality Standard.
- EU: REACH (Annex XVII compliant, not in SVHC Candidate List); CLP (GHS Classification - Warning); Food Additive Regulation (EC 1333/2008, approved as food flavor); Cosmetic Regulation (EC 1223/2009); ADR/RID Class 3 Transport Regulation.
- US: TSCA (listed on the TSCA Inventory); FDA GRAS (Generally Recognized As Safe) for food flavor use; FDA Cosmetic Ingredient Review (CIR) approved; OSHA Hazard Communication Standard (29 CFR 1910.1200); DOT Class 3 Transport Regulation.
- International: ISO 9001 (Quality); ISO 14001 (Environment); IFRA (International Fragrance Association) compliant for cosmetic fragrance use.

15.2 Additional Regulatory Requirements Provide English MSDS/COA for customs clearance and transport; mark **Class 3 Flammable Liquid, FOR**

**FOOD/COSMETIC/PHARMACEUTICAL/INDUSTRIAL USE ONLY, KEEP AWAY FROM FIRE** on all product documents and packaging; comply with food/cosmetic flavor additive dosage limits (GB 2760, EU 1333/2008); label products with flammable, eye/skin irritation warnings for industrial use.

## 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: **Trans-Anethole ( $\geq 99.0\%$ ) colorless liquid, Class 3 flammable liquid, mild eye/skin irritation, for food flavor, cosmetic fragrance, pharmaceutical intermediate and industrial use.**
- Revision Date: 20 FEB 2026