



# 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)

### - Cinnamic Aldehyde

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

**Date:** 15 FEB 2026 **Product Name:** Cinnamic Aldehyde | **CAS No.:** 104-55-2 | **Product Number:** CA-20260215 | **Brand:** SIGALD

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

#### 1.1 Product Identifiers

- Synonyms: Cinnamaldehyde; trans-Cinnamaldehyde; 3-Phenyl-2-propenal
- Chemical Formula:  $C_9H_8O$  | Molecular Weight: 132.16 g/mol

#### 1.2 Details of the supplier of the safety data sheet

- Company: NEWAY SINOPHC TECH. LIMITED
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- 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:** Flavor & fragrance raw material; food additive; pharmaceutical intermediate; fungicide/bactericide; fine chemical synthesis raw material; cosmetic ingredient.
- **Uses Advised Against:** Not for direct oral consumption in large quantities; no use in infant food without regulatory approval; avoid use in high-temperature processing (>120°C) without stabilizer.

### SECTION 2: Hazards Identification

#### 2.1 GHS Classification

- Flammable Liquids (Category 4)
- Skin Irritation (Category 2)
- Eye Irritation (Category 1)
- Skin Sensitization (Category 1)
- Hazardous to the Aquatic Environment - Acute (Category 2)
- Hazardous to the Aquatic Environment - Chronic (Category 2)

#### 2.2 GHS Label Elements

- **Hazard Pictogram:** Flame ( ), Exclamation Mark ( ), Corrosion ( ), Aquatic Hazard ( )

- **Signal Word:** **WARNING**

#### • Hazard Statements:

- H227: Combustible liquid
- H315: Causes skin irritation
- H317: May cause an allergic skin reaction
- H318: Causes serious eye damage
- H411: Toxic to aquatic life with long lasting effects

#### • Precautionary Statements:

- P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking.
- P233: Keep container tightly closed.
- P261: Avoid breathing dust/fume/gas/mist/vapors/spray
- P264: Wash skin thoroughly after handling
- P272: Contaminated work clothing should not be allowed out of the workplace.
- P273: Avoid release to the environment
- P280: Wear protective gloves/eye protection/face protection
- P302+P352: If on skin: Wash with plenty of soap and water



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- P305+P351+P338+P310: If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Immediately call a POISON CENTER or doctor/physician.
- P333+P313: If skin irritation or rash occurs: Get medical advice/attention
- P362+P364: Take off contaminated clothing and wash it before reuse
- P370+P378: In case of fire: Use dry chemical, CO<sub>2</sub>, or foam for extinction
- P501: Dispose of contents/container to an approved waste disposal plant

## 2.3 Physical and Chemical Hazards

- Combustible liquid; vapor may form flammable mixtures with air at high temperature (>100°C).
- Vapors are heavier than air and may accumulate in low-lying areas, leading to flash fire risk.
- May polymerize under high temperature, strong light or acidic/alkaline conditions without stabilizer.
- May decompose when heated to release irritating fumes.

## 2.4 Health Hazards

- **Acute:** Severe eye damage; mild to moderate skin irritation; respiratory tract irritation if inhaled in high concentration; dizziness, nausea and throat discomfort from excessive inhalation.
- **Chronic:** Repeated skin contact may cause allergic contact dermatitis in sensitive individuals; no known chronic systemic toxicity based on current data.

## 2.5 Environmental Hazards

- Toxic to aquatic organisms with long-lasting, irreversible effects; harmful to fish, daphnia and algae even at low concentrations.
- Moderately biodegradable; avoid any release to water, soil and sewage systems.

## 2.6 Other Hazards

- May oxidize in air and light to form cinnamic acid and peroxides with prolonged storage; stabilized with trace antioxidant.
- Irritating to the respiratory tract of humans and animals at high vapor concentrations.

## SECTION 3: Composition/Information on Ingredients

- **Substance / Mixture:** Pure substance (trans-isomer main component)
- **Active Ingredient:** Cinnamic Aldehyde (CAS 104-55-2), Concentration: ≥98.0% (w/w)
- **Hazardous Ingredients:** Only Cinnamic Aldehyde (contains trace antioxidant BHT ≤0.01% to prevent oxidation/polymerization; no other hazardous additives)

## SECTION 4: First Aid Measures

### 4.1 Description of First-Aid Measures

- **If Inhaled:** Move victim to fresh air immediately. Keep respiratory tract unobstructed. If breathing is difficult, give oxygen. Get medical attention at once if cough, dizziness or chest discomfort occurs.
- **In Case of Skin Contact:** Remove contaminated clothing immediately. Wash skin thoroughly with plenty of running water and soap for 10-15 minutes. Do not use organic solvents for cleaning.
- **In Case of Eye Contact:** **IMMEDIATELY** rinse eyes thoroughly with plenty of running water for at least 15 minutes, holding eyelids open. Remove contact lenses if present. Call a poison center or doctor/physician **at once**—severe eye damage risk.
- **If Swallowed:** Do not induce vomiting. Rinse mouth with water. Drink a small amount of water or milk (if conscious). Get medical attention immediately if abdominal pain, nausea or vomiting occurs.

### 4.2 Most Important Symptoms and Effects



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- **Acute:** Severe eye redness, pain and blurred vision; skin redness, burning and itching; allergic rash (sensitive individuals); cough, sore throat and shortness of breath (inhalation); nausea and abdominal pain (ingestion).
- **Delayed:** Allergic skin reaction may appear 24-48 hours after contact; eye damage may have delayed symptoms in severe cases.

## 4.3 Indication of Immediate Medical Attention

- Required for all eye contact incidents, persistent skin irritation/rash, severe respiratory discomfort, excessive inhalation or ingestion of any amount.

## SECTION 5: Firefighting Measures

### 5.1 Extinguishing Media

- **Suitable:** Dry chemical powder, carbon dioxide (CO<sub>2</sub>), alcohol-resistant foam, water spray (cool container only).
- **Unsuitable:** High-pressure water jet (may spread the fire and vapor).

### 5.2 Special Hazards Arising from the Substance

- Combustion generates carbon monoxide (CO) and irritating aromatic fumes.
- Oxidized peroxides and polymers may decompose during combustion to release toxic and irritating gases.
- Polymerization may occur under fire conditions, leading to container expansion or rupture.

### 5.3 Advice for Firefighters

- Wear self-contained breathing apparatus (SCBA) and full fire-fighting protective gear (including eye/face protection).
- Fight fire from upwind and keep a safe distance from burning containers.
- Cool exposed containers with water spray continuously until the fire is completely out to prevent re-ignition and polymerization.
- Prevent fire runoff from entering sewers, water bodies or soil.

## SECTION 6: Accidental Release Measures

### 6.1 Personal Precautions

- Wear nitrile rubber gloves, chemical splash goggles, face shield, protective mask and chemical-resistant clothing.
- Eliminate all ignition sources (no smoking, no sparks, no open flames) in the spill area—combustible liquid risk.
- Ensure good natural or mechanical ventilation; evacuate non-essential personnel for all spills (small/large).

### 6.2 Environmental Precautions

- Contain the spill immediately with inert materials (sand, diatomite) to prevent spread to water, soil, sewers or drains.
- Do not flush the spill into water bodies; no direct discharge to the environment.

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

- **Small Spill:** Absorb completely with inert, non-combustible materials (sand, diatomite, vermiculite). Collect the absorbed material in a sealed HDPE container for proper disposal. Wipe the area with absorbent paper and dispose of it as hazardous waste.
- **Large Spill:** Contain with dikes or sand bags (non-combustible). Transfer the liquid to a sealed HDPE container using an explosion-proof pump for recycling or disposal. Flush the spill area with a small amount of water (collect wash water for hazardous waste treatment).

## SECTION 7: Handling and Storage

### 7.1 Precautions for Safe Handling

- Operate in a well-ventilated fume hood or closed operation with local exhaust ventilation.
- Avoid contact with skin, eyes and respiratory tract; do not generate vapors or mists.



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- No smoking, eating or drinking in the handling area; wash hands and face thoroughly after operation.
- Use plastic/glass tools and explosion-proof equipment for transfer; avoid metal tools that may cause static electricity.
- Label contaminated clothing and wash separately before reuse; do not mix with daily laundry.
- Add extra stabilizer if the product is to be stored for more than 12 months or used in high-temperature processes.

## 7.2 Conditions for Safe Storage

- **Storage Conditions:** Store in a cool, dry, dark, well-ventilated warehouse (temperature  $\leq 25^{\circ}\text{C}$ ). Keep away from heat, sparks, open flames, hot surfaces and direct sunlight.
- **Container:** Sealed dark glass or HDPE containers; keep tightly closed when not in use to prevent oxidation and vapor leakage.
- **Incompatibilities:** Strong oxidizing agents, strong acids, strong bases, halogens, heavy metal salts, amines, reducing agents.
- **Storage Class (TRGS 510):** 3 (Flammable Liquids)
- **Shelf Life:** 24 months (unopened, under specified storage conditions with antioxidant BHT).

## SECTION 8: Exposure Controls/Personal Protection

### 8.1 Control Parameters

- **Occupational Exposure Limit:** TWA: 10 ppm (55 mg/m<sup>3</sup>) (OSHA); STEL: 20 ppm (110 mg/m<sup>3</sup>) (OSHA)
- **TLV-TWA:** 5 ppm (ACGIH) (due to skin sensitization, eye damage and irritation potential)

### 8.2 Exposure Controls

- **Engineering Controls:** Local exhaust ventilation (LEV) to keep vapor concentration below OEL; explosion-proof electrical equipment in handling areas; basic general ventilation.
- **Personal Protective Equipment (PPE):**
  - **Eye/Face Protection:** Chemical splash goggles + face shield (mandatory for all handling operations).
  - **Skin Protection:** Nitrile rubber gloves (thickness  $\geq 0.4\text{mm}$ ), chemical-resistant lab coat, protective boots and arm covers (mandatory for large-scale handling). Avoid latex gloves (may increase sensitization risk).
  - **Respiratory Protection:** Half-face respirator with organic vapor cartridge (mandatory if ventilation is insufficient; full-face respirator for large spills).
  - **Hand Protection:** Replace gloves immediately if damaged, contaminated or permeated; wash hands immediately after glove removal.

## SECTION 9: Physical and Chemical Properties

Property	Value	Unit
Physical State	Clear liquid	-
Color	Light yellow	-
Odor	Characteristic strong cinnamon/balsamic fragrance	-
Melting Point	-7.1	$^{\circ}\text{C}$
Boiling Point	247.2	$^{\circ}\text{C}$
Flash Point	102	$^{\circ}\text{C}$ (Closed Cup)
Autoignition Temperature	250	$^{\circ}\text{C}$
Relative Density (20/20 $^{\circ}\text{C}$ )	1.049	-

Property	Value	Unit
Refractive Index (20°C)	1.6201	-
Viscosity (25°C)	2.5	mPa·s
Water Solubility	Slightly soluble (0.3 g/L at 25°C)	g/L
Solubility	Miscible with ethanol, ether, acetone, vegetable oil, most organic solvents	-
Vapor Pressure (25°C)	0.01	hPa
Vapor Density (Air=1)	4.5	(-)
Flammability	Combustible liquid (Category 4)	-
Octanol/Water Partition Coefficient (Log K <sub>oc</sub> )	2.9	(-)

## SECTION 10: Stability and Reactivity

### 10.1 Chemical Stability

- Stable under normal temperature and storage conditions ( $\leq 25^{\circ}\text{C}$ , sealed, dark); stabilized with BHT to prevent oxidation and polymerization.
- Decomposes at high temperature ( $>150^{\circ}\text{C}$ ) and may polymerize exothermically in the presence of strong light, acids, bases or catalysts.

### 10.2 Possibility of Hazardous Reactions

- No hazardous reactions under normal use and storage conditions; may react violently with strong oxidizing agents, amines, strong acids/bases and reducing agents.
- Uncontrolled polymerization may occur at high temperature without stabilizer, leading to container rupture and fire risk.

### 10.3 Conditions to Avoid

- High temperature ( $>60^{\circ}\text{C}$ ), open flame, direct sunlight, air/oxygen (long-term contact), strong oxidizing agents, strong acids/bases, catalysts, static electricity.

### 10.4 Incompatible Materials

- Strong oxidizing agents ( $\text{KMnO}_4$ ,  $\text{H}_2\text{O}_2$ , concentrated nitric acid), concentrated sulfuric acid, sodium hydroxide (concentrated), chlorine gas, ammonia, amines, heavy metal salts, sodium borohydride.

### 10.5 Hazardous Decomposition Products

- Carbon monoxide ( $\text{CO}$ ), carbon dioxide ( $\text{CO}_2$ ), irritating aromatic aldehydes/carboxylic acids (at high temperature/combustion); peroxides and insoluble polymers (on long-term exposure to air/light).

## SECTION 11: Toxicological Information

- **Acute Oral Toxicity (Rat, LD<sub>50</sub>):** 2,200 mg/kg (moderate toxicity)
- **Acute Dermal Toxicity (Rabbit, LD<sub>50</sub>):** >3,000 mg/kg (low toxicity)
- **Skin Irritation (Rabbit):** Mild to moderate irritation (Category 2), reversible within 72 hours
- **Eye Irritation (Rabbit):** Severe eye damage (Category 1), irreversible in high-concentration exposure
- **Skin Sensitization (Guinea pig):** Positive (Category 1), high risk of allergic contact dermatitis
- **Inhalation Toxicity (Rat, LC<sub>50</sub>):** >3,000 mg/m<sup>3</sup> (4-hour exposure) (low inhalation toxicity, but irritating)
- **Carcinogenicity:** Not classified as carcinogenic by IARC, EPA or NTP
- **Reproductive Toxicity:** No known reproductive toxicity based on current data (NOAEL: 200 mg/kg/day)
- **Specific Target Organ Toxicity:** May cause respiratory tract and eye irritation at high concentration (single exposure)

## SECTION 12: Ecological Information

- **Fish Toxicity (Zebrafish, LC<sub>50</sub>):** 12 mg/L (96-hour exposure)
- **Daphnia Toxicity (EC<sub>50</sub>):** 8 mg/L (48-hour exposure)
- **Algae Toxicity (Chlorella, EC<sub>50</sub>):** 10 mg/L (72-hour exposure)
- **Persistence and Degradability:** Moderately biodegradable (BOD<sub>5</sub> /COD = 0.38; 55-60% biodegradation in 28 days)
- **Bioaccumulative Potential:** Moderate (Log K<sub>oc</sub> = 2.9; bioaccumulation factor (BCF) = 200-500 in fish)
- **Mobility in Soil:** Moderate mobility; may bind to soil organic matter
- **PBT/vPvB Assessment:** Not classified as PBT/vPvB (moderately biodegradable, no persistent bioaccumulation)

## SECTION 13: Disposal Considerations

### 13.1 Waste Treatment Methods

- **Product Waste:** Dispose of through licensed hazardous waste treatment facilities in accordance with local/national/international regulations. Incineration with high-temperature waste gas treatment (to remove irritating aromatic fumes) is recommended.
- **Contaminated Packaging:** Rinse packaging thoroughly with an organic solvent (ethanol/acetone); collect the rinse liquid for hazardous waste disposal. Dispose of the rinsed packaging as hazardous waste or recycle after professional decontamination.
- **Do not dispose of into the environment, sewers, trash or water bodies; do not dump on soil. All waste must be treated as hazardous waste.**

## SECTION 14: Transport Information

- **UN Number:** 3082
- **UN Proper Shipping Name:** Environmentally hazardous substances, liquid, n.o.s. (Cinnamic Aldehyde)
- **Transport Hazard Class:** 9 (Miscellaneous dangerous goods)
- **Packaging Group:** III
- **Environmental Hazards:** IMDG Marine Pollutant: **Yes**
- **Special Precautions for Transport:**
  - Transport in sealed dark glass/HDPE containers; avoid collision, leakage, breakage and direct sunlight.
  - Keep away from heat, sparks, open flames and hot surfaces during transport (temperature ≤30°C).
  - Do not transport with strong oxidizing agents, strong acids, strong bases, amines, food, food additives or cosmetics in the same vehicle.
  - Comply with IMDG, IATA, ADR/RID and national transport regulations for Class 9 hazardous goods; mark hazard labels clearly.

## SECTION 15: Regulatory Information

### 15.1 National & International Regulations

- **China:** Hazardous Chemicals Safety Management Regulation (Class 9 miscellaneous dangerous goods); National Food Safety Standard (approved for food flavor use with limited dosage); Cosmetic Safety and Technical Specifications (approved for cosmetic use with restrictions).
- **International:** GHS Classification (Rev.9); REACH (EU: registered, not in SVHC Candidate List); TSCA (US: listed on the TSCA Inventory); FDA (US: GRAS for food use with limited dosage); IMDG/IATA/ADR (Class 9 miscellaneous dangerous goods).

### 15.2 Other Regulations



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- Comply with local environmental protection, hazardous waste disposal and occupational health and safety regulations; comply with cosmetic fragrance safety regulations (strict limit for skin sensitization and eye irritation); comply with food additive use standards (strict dosage limit for flavor application); comply with occupational exposure limit standards for industrial use.

### **SECTION 16: Other Information**

- This MSDS is based on current scientific knowledge and complies with GB/T 16483, GB/T 17519 and GHS (Rev.9) standards.
- The product contains antioxidant BHT ( $\leq 0.01\%$ ) to prevent oxidation, polymerization and peroxide formation; no other additives are present.
- The supplier is not liable for any damage caused by improper use, storage, transport or disposal of this product.
- For updated information, contact the supplier directly.

