

Safety Data Sheet (MSDS) - α -Ionone

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

Revision Date: 15 FEB 2026 **Product Name:** α -ionone | **CAS No.:** 127-41-3 | **Product Number:** AI-20260215 | **Brand:** SIGALD

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

1.1 Product Identifiers

- Synonyms: 2-Cyclohexen-1-one, 4-(2,6,6-trimethyl-2-cyclohexen-1-yl)-
- Chemical Formula: $C_{13}H_{20}O$ | Molecular Weight: 192.30 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 and Uses Advised Against

- **Identified Uses:** Fragrance and flavor raw material; cosmetic ingredient; fine chemical intermediate for pharmaceutical and pesticide production.
- **Uses Advised Against:** Not for direct oral consumption in large quantities; no use in food for infants and young children without approval.

SECTION 2: Hazards Identification

2.1 GHS Classification

- Skin Irritation (Category 2)
- Eye Irritation (Category 2)
- Specific Target Organ Toxicity - Single Exposure (Category 3, Respiratory tract irritation)

2.2 GHS Label Elements

- **Hazard Pictogram:** Warning ()
- **Signal Word:** WARNING

• Hazard Statements:

- H315: Causes skin irritation
- H319: Causes serious eye irritation
- H335: May cause respiratory tract irritation

• Precautionary Statements:

- P261: Avoid breathing dust/fume/gas/mist/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 soap and water
- 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
- P332+P313: If skin irritation occurs: Get medical advice/attention

2.3 Physical and Chemical Hazards

- Flammable liquid (Category 4); may catch fire at high temperature or open flame.
- No explosion risk under normal use conditions.

2.4 Health Hazards

- Acute: Skin/eye irritation; respiratory tract irritation if inhaled in high concentration.
- Chronic: No known chronic health hazards based on current data; repeated skin contact may cause mild allergic reaction in sensitive individuals.



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2.5 Environmental Hazards

- Low aquatic toxicity; moderate biodegradability; no significant bioaccumulation potential.
- May cause temporary harm to aquatic organisms if released in large quantities.

2.6 Other Hazards

- No additional hazards identified.

SECTION 3: Composition/Information on Ingredients

- **Substance / Mixture:** Pure substance
- **Active Ingredient:** α -Ionone (CAS 127-41-3), Concentration: $\geq 98.0\%$ (w/w)
- **Hazardous Ingredients:** Only α -Ionone (no other hazardous additives)

SECTION 4: First Aid Measures

4.1 Description of First-Aid Measures

- **If Inhaled:** Move victim to fresh air. Keep respiratory tract unobstructed. If breathing is difficult, give oxygen. Get medical advice if symptoms persist.
- **In Case of Skin Contact:** Remove contaminated clothing immediately. Wash skin thoroughly with plenty of running water and soap for 10-15 minutes. Get medical attention if irritation or rash occurs.
- **In Case of Eye Contact:** Rinse eyes thoroughly with plenty of running water for 15 minutes, holding eyelids open. Remove contact lenses if present. Get medical attention immediately if irritation persists.
- **If Swallowed:** Do not induce vomiting. Rinse mouth with water. Drink a glass of water or milk (if conscious). Get medical attention immediately.

4.2 Most Important Symptoms and Effects

- Acute: Redness, itching, burning of skin/eyes; cough, sore throat, shortness of breath (inhalation); nausea, abdominal discomfort (ingestion).
- Delayed: No known delayed toxic effects.

4.3 Indication of Immediate Medical Attention

- Required for severe eye irritation, persistent skin rash, severe respiratory discomfort or ingestion of large quantities.

SECTION 5: Firefighting Measures

5.1 Extinguishing Media

- **Suitable:** Dry powder, carbon dioxide (CO₂), foam, water spray (cool container only).
- **Unsuitable:** High-pressure water jet (may spread the fire).

5.2 Special Hazards Arising from the Substance

- Combustion may generate small amounts of carbon monoxide (CO) and volatile organic compounds.
- Vapors may spread along the ground and ignite at a distance from the fire source.

5.3 Advice for Firefighters

- Wear self-contained breathing apparatus (SCBA) and full fire-fighting protective gear.
- Fight fire from upwind; cool exposed containers with water spray to prevent explosion.
- Prevent fire runoff from entering sewers or water bodies.

SECTION 6: Accidental Release Measures

6.1 Personal Precautions

- Wear nitrile rubber gloves, safety glasses and protective mask. Ensure good ventilation of the spill area. Evacuate non-essential personnel.

6.2 Environmental Precautions

- Contain the spill to prevent it from entering soil, water courses, sewers or drains. Do not let the product reach groundwater, surface water or sewage system.

6.3 Methods and Materials for Containment and Cleaning Up



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

SECTION 7: Handling and Storage

7.1 Precautions for Safe Handling

- Operate in a well-ventilated fume hood or open area. Avoid contact with skin, eyes and respiratory tract.
- Do not smoke, eat or drink during handling. Wash hands thoroughly after operation.
- Avoid generating vapors or mists; use closed transfer systems if possible.

7.2 Conditions for Safe Storage

- **Storage Conditions:** Store in a cool, dry, well-ventilated warehouse (temperature $\leq 25^{\circ}\text{C}$). Keep away from heat, sparks, open flames and direct sunlight.
- **Container:** Sealed HDPE or glass containers; keep tightly closed when not in use.
- **Incompatibilities:** Strong oxidizing agents (e.g., hydrogen peroxide, potassium permanganate), strong acids, strong bases, halogens.
- **Storage Class (TRGS 510):** 3 (Flammable Liquids)
- **Shelf Life:** 24 months (unopened, under specified storage conditions).

SECTION 8: Exposure Controls/Personal Protection

8.1 Control Parameters

- **Occupational Exposure Limit:** No national/international unified limit; use engineering controls to keep exposure as low as possible.

8.2 Exposure Controls

- **Engineering Controls:** Local exhaust ventilation; general ventilation to maintain low vapor concentration.
- **Personal Protective Equipment (PPE):**
 - Eye/Face Protection: Chemical splash goggles and face shield (for large-scale handling).
 - Skin Protection: Nitrile rubber gloves (thickness $\geq 0.3\text{mm}$), chemical-resistant lab coat.
 - Respiratory Protection: Half-face respirator with organic vapor cartridge (if ventilation is insufficient or high concentration vapor is present).
 - Hand Protection: Replace gloves if damaged or contaminated.

SECTION 9: Physical and Chemical Properties

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Property	Value	Unit
Physical State	Clear liquid	-
Color	Colorless to pale yellow	-
Odor	Characteristic floral, woody fragrance	-
Melting Point	-43.8	$^{\circ}\text{C}$
Boiling Point	238.5	$^{\circ}\text{C}$
Flash Point	96	$^{\circ}\text{C}$ (Closed Cup)
Autoignition Temperature	380	$^{\circ}\text{C}$
Relative Density (20/20 $^{\circ}\text{C}$)	0.933	-



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Property	Value	Unit
Refractive Index (20°C)	1.5005	-
Viscosity (25°C)	3.2	mPa·s
Water Solubility	Insoluble	g/L
Solubility	Miscible with ethanol, ether, vegetable oil, organic solvents	-
Vapor Pressure (25°C)	0.02	hPa
Flammability	Flammable liquid (Category 4)	-

SECTION 10: Stability and Reactivity

10.1 Chemical Stability

- Stable under normal temperature and storage conditions; no decomposition under sealed conditions.

10.2 Possibility of Hazardous Reactions

- No hazardous reactions under normal use and storage conditions.

10.3 Conditions to Avoid

- High temperature (>60°C), open flame, direct sunlight, strong oxidizing agents, strong acids/bases.

10.4 Incompatible Materials

- Strong oxidizing agents (KMnO₄, H₂O₂), concentrated sulfuric acid, concentrated nitric acid, sodium hydroxide (concentrated), chlorine gas.

10.5 Hazardous Decomposition Products

- Carbon monoxide (CO), carbon dioxide (CO₂), volatile organic fragments (at high temperature/combustion).

SECTION 11: Toxicological Information

- **Acute Oral Toxicity (Rat, LD₅₀):** 3,200 mg/kg (moderate toxicity)
- **Acute Dermal Toxicity (Rabbit, LD₅₀):** >5,000 mg/kg (low toxicity)
- **Skin Irritation (Rabbit):** Mild to moderate irritation (Category 2)
- **Eye Irritation (Rabbit):** Moderate irritation (Category 2), reversible within 72 hours
- **Inhalation Toxicity (Rat, LC₅₀):** >5,000 mg/m³ (4-hour exposure)
- **Skin Sensitization:** No sensitizing effects (Guinea pig test)
- **Carcinogenicity:** Not classified as carcinogenic by IARC, EPA or NTP
- **Reproductive Toxicity:** No known reproductive toxicity based on current data

SECTION 12: Ecological Information

- **Fish Toxicity (Zebrafish, LC₅₀):** 850 mg/L (96-hour exposure)
- **Daphnia Toxicity (EC₅₀):** 620 mg/L (48-hour exposure)
- **Algae Toxicity (EC₅₀):** 980 mg/L (72-hour exposure)
- **Persistence and Degradability:** Moderately biodegradable (BOD₅/COD = 0.45)
- **Bioaccumulative Potential:** Low (Log K_{oc} = 3.2, no bioaccumulation in aquatic organisms)
- **Mobility in Soil:** Moderate mobility; may bind to soil organic matter
- **PBT/vPvB Assessment:** Not classified as PBT/vPvB

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 waste gas treatment (to remove organic vapors) is recommended.



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- **Packaging Waste:** Rinse packaging thoroughly with organic solvent (ethanol/ether); collect the rinse liquid for disposal. Dispose of the rinsed packaging as hazardous waste or recycle after professional treatment.

- **Do not dispose of into the environment, sewers or trash.

SECTION 14: Transport Information

- **UN Number:** 3082
- **UN Proper Shipping Name:** Environmentally hazardous substances, liquid, n.o.s. (α-Ionone)
- **Transport Hazard Class:** 9 (Miscellaneous dangerous goods)
- **Packaging Group:** III
- **Environmental Hazards:** IMDG Marine Pollutant: Yes (minor)
- **Special Precautions for Transport:**
 - Transport in sealed HDPE/glass containers; avoid collision, leakage and breakage.
 - Keep away from heat, sparks, open flame and direct sunlight during transport (temperature $\leq 30^{\circ}\text{C}$).
 - Do not transport with strong oxidizing agents, strong acids, strong bases or food/food additives.
 - Comply with IMDG, IATA and ADR/RID transport regulations for Class 9 goods.

SECTION 15: Regulatory Information

15.1 National & International Regulations

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

15.2 Other Regulations

- Comply with local environmental protection and hazardous waste disposal regulations; comply with occupational health and safety regulations for chemical handling.

SECTION 16: Other Information

- This MSDS is based on current scientific knowledge and complies with GB/T 16483, GB/T 17519 and GHS standards.
- 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.