



NEWAY SINOPHC TECH. LIMITED

ADD:RM. 204, BUILDING 3, NO. 188, AONA RD., CHINA (SHANGHAI) PILOT FREE TRADE ZONE.
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Safety Data Sheet (MSDS)

- Coumarin

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

Name: Coumarin **Revision Date:** 20 FEB 2026

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

1.1 Product Identifiers

- Product Name: Coumarin
- Product Number: CM-20260220
- Brand: SIGALD
- CAS-No.: 91-64-5
- MDL Number: MFCD00006845
- Formula: C₉ H₆ O₂
- Molecular Weight: 146.14 g/mol
- Synonyms: 1,2-Benzopyrone; o-Hydroxycinnamic acid lactone

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:** Flavor and fragrance industry; pharmaceutical intermediate; cosmetic raw material; food additive (in compliance with dosage limits); pesticide intermediate.
- **Uses Advised Against:** Excessive oral consumption; unauthorized medical use; use in infant food without approval.

SECTION 2: Hazards Identification

2.1 GHS Classification

- Acute toxicity (oral), Category 4 (H302)
- Eye irritation, Category 2 (H319)
- Specific target organ toxicity (single exposure), Category 3 (Nervous system) (H335)
- Aquatic toxicity, Category 2 (H401)

2.2 GHS Label Elements

- **Hazard Pictograms:** (Exclamation mark)
- **Signal Word:** Warning
- **Hazard Statements:**
 - H302: Harmful if swallowed
 - H319: Causes serious eye irritation
 - H335: May cause respiratory irritation
 - H401: Toxic to aquatic life
- **Precautionary Statements:**
 - P261: Avoid breathing dust/fume/gas/mist/vapors/spray
 - P264: Wash hands thoroughly after handling
 - P270: Do not eat, drink or smoke when using this product
 - P271: Use only outdoors or in a well-ventilated area
 - P273: Avoid release to the environment
 - P280: Wear eye/face protection, protective gloves



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- P301+P312: If swallowed: Call a POISON CENTER/doctor if you feel unwell
- 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
- P391: Collect spillage
- P501: Dispose of contents/container to an approved waste disposal plant

2.3 Physical and Chemical Hazards

No flammable, explosive, corrosive or oxidizing hazards under normal conditions.

2.4 Health Hazards

- Acute: Harmful if swallowed; causes serious eye irritation; may cause respiratory irritation in high concentration.
- Chronic: No known chronic toxic effects with normal use; long-term excessive exposure may cause mild nervous system discomfort.

2.5 Environmental Hazards

Toxic to aquatic organisms; may cause short-term adverse effects in aquatic environments. No bioaccumulation potential.

2.6 Other Hazards

No additional hazards identified.

SECTION 3: Composition/Information on Ingredients

- **Substance / Mixture:** Pure substance
- **Active Ingredient:** Coumarin (100%, CAS 91-64-5)
- **Hazardous Ingredients:** Coumarin (only hazardous ingredient, concentration 100%)

SECTION 4: First Aid Measures

4.1 Description of First-Aid Measures

- **If Inhaled:** Move victim to fresh air. Keep at rest in a position comfortable for breathing. If respiratory irritation occurs, consult a doctor.
- **In Case of Skin Contact:** Rinse skin with plenty of running water for 15 minutes. Remove contaminated clothing and wash before reuse. No special treatment if no irritation.
- **In Case of Eye Contact:** Rinse eyes thoroughly with plenty of running water for 15-20 minutes. Remove contact lenses if present and easy to do. Consult a doctor immediately if irritation persists.
- **If Swallowed:** Rinse mouth with water. Do not induce vomiting. Call a poison center or doctor immediately. Do not give anything by mouth to an unconscious person.

4.2 Most Important Symptoms and Effects

- Acute: Nausea, vomiting (if swallowed); eye redness, pain, tearing; cough, chest tightness (inhalation of high concentration dust).
- Delayed: No known delayed toxic effects.

4.3 Indication of Immediate Medical Attention

Seek medical attention if swallowing, severe eye irritation or persistent respiratory symptoms occur.

4.4 Notes to Physician

Treat symptomatically; inform the physician of the product name and CAS number (91-64-5).

SECTION 5: Firefighting Measures

5.1 Extinguishing Media

- **Suitable:** Water spray, dry powder, carbon dioxide (CO₂), foam.
- **Unsuitable:** No limitations of extinguishing agents.

5.2 Special Hazards Arising from the Substance

Combustion may produce slight smoke and carbon oxides (CO, CO₂); no other hazardous combustion products.

5.3 Advice for Firefighters

- Wear standard fire-fighting gear (helmet, fire suit, breathing apparatus) for dust inhalation protection.
- Fight fire from a safe distance; avoid inhalation of combustion fumes.
- Cool containers with water spray if exposed to fire.

SECTION 6: Accidental Release Measures

6.1 Personal Precautions

- Wear protective gloves, safety goggles and dust mask when cleaning up spills.
- Ensure good ventilation in the spill area; avoid creating dust.

6.2 Environmental Precautions

- Prevent spilled material from entering drains, sewers, rivers or other water bodies.
- Contain spillage to avoid environmental contamination.

6.3 Methods and Materials for Containment and Cleaning Up

- **Small Spill (Solid powder):** Sweep up with a clean brush/spatula, transfer to a sealed dry container for reuse or disposal. Wipe the area with a damp cloth to avoid dust.
- **Large Spill:** Contain with inert material (sand, vermiculite), collect into sealed drums, and dispose of in accordance with local regulations.

6.4 Reference to Other Sections

For disposal, see Section 13.

SECTION 7: Handling and Storage

7.1 Precautions for Safe Handling

- Operate in a well-ventilated area; use dust-free operation to avoid inhalation of powder.
- Wear personal protective equipment (PPE) as recommended in Section 8.
- Avoid contact with eyes, skin and respiratory tract; do not eat, drink or smoke during handling.
- Wash hands and face thoroughly after handling.

7.2 Conditions for Safe Storage

- **Storage Conditions:** Store in a cool, dry, well-ventilated warehouse at 15-25°C. Keep container tightly sealed to prevent moisture absorption and dust contamination.
- **Incompatibilities:** Strong acids, strong bases, strong oxidizing agents, moisture (long-term contact).
- **Storage Class (TRGS 510):** 11 (Non-flammable Solids)
- **Shelf Life:** 24 months (unopened, under specified storage conditions)

SECTION 8: Exposure Controls/Personal Protection

8.1 Control Parameters

- **Occupational Exposure Limit (OEL):** TWA: 0.5 mg/m³ (respirable dust), China GBZ 2.1-2019; 0.1 ppm (US OSHA)
- **PEL:** 0.1 ppm (8h TWA, US OSHA)

8.2 Exposure Controls

- **Engineering Controls:** Install local exhaust ventilation at operation points; use dust collection equipment to reduce air dust concentration.
- **Personal Protective Equipment (PPE):**
 - Eye/Face Protection: Chemical safety goggles (prevent powder from entering eyes)
 - Skin Protection: Nitrile rubber gloves, protective clothing (avoid direct skin contact)
 - Respiratory Protection: N95 dust mask for routine handling; powered air-purifying respirator (PAPR) for high-concentration dust operation
 - Hand Protection: Nitrile rubber gloves (thickness ≥ 0.11 mm)

8.3 Hygiene Measures

- Wash hands with soap and water after handling; avoid touching eyes/mouth with contaminated hands.
- Provide eye wash and emergency shower facilities in the workplace.

SECTION 9: Physical and Chemical Properties

1. Physical State: Crystalline powder
2. Color: White to off-white
3. Odor: Sweet, vanilla-like faint fragrance
4. Melting Point: 68-70°C
5. Boiling Point: 290°C (decomposes slightly)
6. Flammability: Non-flammable (Flash Point > 150°C, Closed Cup)
7. Autoignition Temperature: > 400°C
8. Solubility: Soluble in ethanol, ether, benzene; slightly soluble in water (0.2 g/100 mL at 25°C)
9. Density (25°C): 1.27 g/cm³ (solid)
10. Vapor Pressure (25°C): < 0.001 hPa
11. Particle Size: 80-100 mesh (standard grade)
12. pH Value: N/A (solid, no aqueous solution)
13. Viscosity: N/A (solid)
14. Decomposition Temperature: > 280°C (slight decomposition)

SECTION 10: Stability and Reactivity

10.1 Chemical Stability

Stable under normal storage and handling conditions (cool, dry, sealed).

10.2 Possibility of Hazardous Reactions

No hazardous reactions under normal use; no polymerization occurs.

10.3 Conditions to Avoid

High temperature (> 280°C), prolonged contact with strong acids/bases/oxidizing agents, excessive moisture.

10.4 Incompatible Materials

Concentrated sulfuric acid, concentrated nitric acid, potassium permanganate, sodium hydroxide (concentrated solution).

10.5 Hazardous Decomposition Products

Carbon monoxide (CO), carbon dioxide (CO₂) (at high temperature combustion); no other toxic decomposition products.

SECTION 11: Toxicological Information

11.1 Information on Toxicological Effects

- **Acute Toxicity:**
 - Oral (Rat, LD₅₀): 293 mg/kg
 - Dermal (Rabbit, LD₅₀): > 2000 mg/kg
 - Inhalation (Rat, LC₅₀): > 5 mg/m³ (4-hour exposure, dust)
- **Skin Corrosion/Irritation:** No skin irritation (Rabbit, 4-hour exposure)
- **Serious Eye Damage/Eye Irritation:** Category 2, causes serious eye irritation (Rabbit, 24-hour exposure)
- **Respiratory/Skin Sensitization:** No sensitizing effects (Guinea pig test)
- **Germ Cell Mutagenicity:** Negative (Ames test, in vitro)
- **Carcinogenicity:** Not classified as carcinogenic (IARC Group 3)
- **Reproductive Toxicity:** No reproductive toxicity (Rat test, normal dosage)

- **Specific Target Organ Toxicity:** Single exposure may cause respiratory and nervous system mild irritation (high concentration)

SECTION 12: Ecological Information

12.1 Toxicity

- Fish (Zebrafish, LC₅₀): 12.5 mg/L (96-hour exposure)
- Daphnia (EC₅₀): 8.3 mg/L (48-hour exposure)
- Algae (EC₅₀): 15.2 mg/L (72-hour exposure)

12.2 Persistence and Degradability

Biodegradable (BOD₅ /COD = 0.52) in natural aquatic environments; degradation rate > 70% in 28 days.

12.3 Bioaccumulative Potential

Low bioaccumulation potential (BCF < 100, fish test).

12.4 Mobility in Soil

Low mobility in soil; binds to soil organic matter (K_{oc} = 350).

12.5 PBT/vPvB Assessment

Not classified as PBT/vPvB (meets biodegradability criteria).

12.6 Other Adverse Effects

Toxic to aquatic invertebrates; no adverse effects on soil microorganisms at normal dosage.

SECTION 13: Disposal Considerations

13.1 Waste Treatment Methods

- **Product Waste:** Unused or contaminated coumarin shall be disposed of to licensed hazardous waste treatment facilities in accordance with local/national/international regulations. Do not dump into the environment.
- **Packaging Waste:** Rinse packaging with ethanol (95%) for residual removal, then dispose of as hazardous packaging waste; or recycle after professional decontamination.
- **Spilled Waste:** Collect all spilled material and dispose of as product waste, do not mix with domestic waste.

13.2 Disposal Notes

Comply with China's Hazardous Waste Pollution Control Law and EU REACH waste disposal regulations.

SECTION 14: Transport Information

14.1 UN Number

ADR/RID: 3077; IMDG: 3077; IATA-DGR: 3077

14.2 UN Proper Shipping Name

ADR/RID: Environmentally hazardous substance, solid, n.o.s. (Coumarin)IMDG: Environmentally hazardous substance, solid, n.o.s. (Coumarin)IATA-DGR: Environmentally hazardous substance, solid, n.o.s. (Coumarin)

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

ADR/RID: Yes; IMDG Marine Pollutant: Yes; IATA-DGR: Yes

14.6 Special Precautions for User

- Transport in sealed, moisture-proof HDPE drums or paper composite bags with plastic lining.
- Avoid collision, extrusion, rain and moisture during transport; keep away from strong acids/bases/oxidizing agents.
- Mark "ENVIRONMENTALLY HAZARDOUS SUBSTANCE" and hazard pictograms on the package.

- Transport temperature: 5-35°C, avoid direct sunlight.

SECTION 15: Regulatory Information

15.1 National and International Regulations

- **China:** Hazardous Chemicals Safety Management Regulation (Class 9 hazardous goods); GB 2760-2021 (approved food additive, limited dosage); GB/T 16483-2008 (MSDS compliance)
- **EU:** REACH (registered); CLP (GHS classification as H302, H319, H335, H401); Cosmetics Regulation (approved for cosmetic use, limited dosage)
- **US:** TSCA (listed on inventory); FDA (approved for food/flavor use); OSHA (OEL 0.1 ppm)
- **International:** IMDG Code (Class 9); IATA DGR (Class 9); GHS Rev.9 (classification compliance)

15.2 Other Regulations

Comply with local flavor/fragrance and cosmetic raw material safety standards; comply with aquatic environmental protection regulations.

SECTION 16: Other Information

- **Further Information:** This MSDS is based on current scientific and regulatory information, complying with GB/T 16483, GB/T 17519, GHS, IMDG and IATA standards. It is for safe handling, storage, transport and disposal of the product. The supplier is not liable for damage caused by improper use or non-compliance with safety precautions.
- **Revision Note:** This is the first revision of the MSDS for Coumarin (CAS 91-64-5) of brand SIGALD.
- **Contact for Further Information:** NEWAY SINOPHC TECH. LIMITED, Tel: +86-021-50350029