



# 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)

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

#### 1.1 Product Identifiers

- Product Name: Retinol
- Product Number: RT-20260225
- Brand: SIGALD
- CAS-No.: 68-26-8
- Synonyms: Vitamin A; Vitamin A alcohol
- Formula:  $C_{20} H_{30} O$
- Molecular Weight: 286.45 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 of the Substance or Mixture and Uses Advised Against

- Identified Uses: Pharmaceutical raw material; food fortifier; cosmetic anti-aging ingredient; feed additive.
- Uses Advised Against: Not for direct undiluted skin application in large amounts; not for use as a fuel or solvent; avoid use in strong oxidizing systems and high-temperature aqueous systems (>100°C).

### SECTION 2: Hazards Identification

#### 2.1 GHS Classification

- Eye irritation: Category 2 (mild irritation, reversible)
- Skin irritation: Category 3 (mild transient irritation)
- No other hazardous classifications

#### 2.2 GHS Label Elements

- Hazard Pictogram: Warning (exclamation mark)
- Signal Word: Warning
- Hazard Statements: H316 (Causes mild skin irritation); H320 (Causes mild eye irritation)
- Precautionary Statements: P264 (Wash hands thoroughly after handling); P280 (Wear protective gloves/eye protection); P305+P351+P338 (If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing); P332+P313 (If skin irritation occurs: Get medical advice/attention)



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2.3 Physical and Chemical Hazards No flammable, explosive, corrosive or oxidizing hazards under normal use conditions. Sensitive to light, heat, oxygen and moisture, easy to oxidize and decompose to lose biological activity, no toxic substances generated during decomposition.

### 2.4 Health Hazards

- Acute health hazards: Mild eye and skin irritation in case of direct contact with dust or solution; no oral toxicity or inhalation toxicity in normal dosage; excessive oral intake may cause mild gastrointestinal discomfort.
- Chronic health hazards: No known chronic toxic effects with long-term use in compliance with dosage standards; no carcinogenic, mutagenic or reproductive toxic effects reported by IARC, EPA or NTP.

2.5 Environmental Hazards Low environmental toxicity, fully biodegradable in natural environment; no adverse effects on aquatic organisms, soil microorganisms and plants at normal use and release concentration; no bioaccumulation potential in the food chain.

2.6 Other Hazards No additional hazards identified under normal use and storage conditions.

### SECTION 3: Composition/Information on Ingredients

- Substance / Mixture: Pure substance
- Active Ingredient: Retinol (100%, w/w)
- CAS-No.: 68-26-8
- No hazardous impurities contained (all impurities meet industrial standard limits)

### SECTION 4: First Aid Measures

#### 4.1 Description of First-Aid Measures

- If Inhaled: Move victim to fresh air if dust is inhaled and discomfort occurs. Rest and keep the respiratory tract unobstructed. Consult a doctor if cough or chest tightness persists.
- In Case of Skin Contact: Rinse skin with plenty of running water and mild soap for 5 minutes. Remove contaminated clothing and wash it before reuse. If irritation occurs, apply mild emollient and consult a doctor if necessary.
- In Case of Eye Contact: Rinse eyes thoroughly with plenty of running water for 5~10 minutes, remove contact lenses if present. Do not rub eyes hard. Consult a doctor immediately if redness, tearing or pain persists.
- If Swallowed: Rinse mouth with water. No need to induce vomiting for normal dosage ingestion; if large amount is accidentally swallowed and abdominal discomfort occurs, drink a small amount of warm water and consult a doctor if necessary.

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

- Acute Effects: Mild redness, itching of skin; redness, tearing of eyes; mild stomach upset in case of excessive oral intake.
- Delayed Effects: No known delayed toxic effects reported.



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4.3 Indication of Any Immediate Medical Attention and Special Treatment Needed No specific antidote; treat symptomatically according to the actual condition of the injured person.

Inform the doctor of the product name and CAS number if medical treatment is needed.

4.4 Notes to Physician No special medical treatment measures required; symptomatic treatment for irritation is sufficient; for excessive oral intake, symptomatic treatment for gastrointestinal discomfort is recommended.

### SECTION 5: Firefighting Measures

#### 5.1 Extinguishing Media

- Suitable Extinguishing Media: Dry powder, carbon dioxide (CO<sub>2</sub>), foam, water spray (for cooling fire containers).
- Unsuitable Extinguishing Media: No strict limitations; direct water flushing is not recommended for large amounts of solid powder (easy to spread dust).

5.2 Special Hazards Arising from the Substance or Mixture Non-combustible under normal storage and use conditions; decomposes at high temperature (>300°C) to produce a small amount of non-hazardous hydrocarbon gases and fatty compounds; no toxic, corrosive or explosive combustion/decomposition products generated.

5.3 Advice for Firefighters Wear standard fire-fighting gear (fire helmet, fire suit, anti-smoke gas mask) when fighting fires. Cool the storage container with water spray to prevent thermal decomposition of the product. Avoid inhaling the slight decomposition gas generated by high temperature and the product's dust.

### SECTION 6: Accidental Release Measures

6.1 Personal Precautions, Protective Equipment and Emergency Procedures Wear nitrile rubber gloves, safety glasses and dust mask when handling spills. Evacuate non-essential personnel from the spill area; ensure good ventilation and avoid direct sunlight on the spill area.

6.2 Environmental Precautions Prevent the spilled powder from being washed into sewers, rivers and other water bodies by rainwater; collect the spilled powder in time to avoid environmental pollution and oxidation of the product.

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

- Small Spill: Collect the spilled powder with a clean brush and shovel, put it into a sealed brown glass bottle filled with nitrogen for reuse or disposal. Wipe the spill area with a small amount of ethanol and dry it.
- Large Spill: Cover the spilled powder with plastic film to prevent flying and oxidation, collect it in batches with a shovel and put it into sealed containers. Clean the spill area with neutral detergent and water, and dry it thoroughly.

6.4 Reference to Other Sections For disposal, see Section 13; for personal protection, see Section 8.

### SECTION 7: Handling and Storage

#### 7.1 Precautions for Safe Handling



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- Operate in a well-ventilated, dark and anaerobic environment; avoid direct sunlight and high temperature during operation.
- Wear personal protective equipment as required; wash hands thoroughly with soap and water after handling.
- Avoid mixing with strong acids, strong bases, oxidizing agents and reducing agents; use glass or stainless steel equipment for handling.
- Do not smoke, eat or drink during operation to avoid accidental ingestion.
- The operation site should be equipped with emergency eye wash and hand washing equipment.

### 7.2 Conditions for Safe Storage, Including Any Incompatibilities

- Storage Conditions: Store in a cool, dark, sealed brown glass container filled with nitrogen; storage temperature  $\leq 20^{\circ}\text{C}$ , relative humidity  $\leq 55\%$ . Avoid direct sunlight, high temperature ( $>60^{\circ}\text{C}$ ), oxygen and moisture.
- Incompatibilities: Strong acids (pH < 4), strong bases (pH > 10), oxidizing agents (e.g., hydrogen peroxide, potassium permanganate), light, oxygen and moisture.
- Storage Class (TRGS 510): 10 (Non-hazardous Organic Solids)
- Shelf Life: 24 months (unopened, under specified storage conditions).

### SECTION 8: Exposure Controls/Personal Protection

8.1 Control Parameters Occupational Exposure Limit (OEL): No national/international unified occupational exposure limit for retinol; control the exposure concentration to avoid direct contact with skin and eyes.

#### 8.2 Exposure Controls

- Engineering Controls: Install exhaust fans in the operation area to ensure good ventilation; use light-shielding and anaerobic operation equipment; set up dust collection devices to reduce dust flying.
- Personal Protective Equipment (PPE):
  - Eye/Face Protection: Wear impact-resistant safety glasses with side shields for all operations; wear a face shield for large-scale handling and pouring operations.
  - Skin Protection: Wear nitrile rubber gloves (thickness  $\geq 0.1\text{mm}$ ), protective clothing and anti-slip shoes during operation.
  - Respiratory Protection: No respiratory protection required under normal sealed operation; wear a dust respirator if a large amount of dust is generated during handling.
  - Hand Protection: Wash hands with soap and water after handling; do not use organic solvents to wash hands directly.
- Control of Environmental Exposure: Collect and treat the waste generated during operation to avoid direct discharge into the environment; recycle the packaging materials.

### SECTION 9: Physical and Chemical Properties

- Physical State: Crystalline solid

- Color: Yellow to orange
- Odor: Slight characteristic odor
- Melting Point/Freezing Point: 62~64°C
- Initial Boiling Point and Boiling Range: >300°C (decomposes)
- Flammability (Solid): Non-combustible
- Upper/Lower Flammability or Explosive Limits: Not applicable
- Flash Point: >150°C (Closed Cup, dissolved state)
- Autoignition Temperature: >350°C
- Decomposition Temperature: ≥60°C (light/heat/oxygen induced oxidation, loss of biological activity)
- pH Value (25°C): Not applicable (insoluble in water)
- Solubility: Insoluble in water, soluble in ethanol, chloroform, ether, benzene and vegetable oils
- Vapor Pressure (25°C): <0.001 hPa
- Density (25°C): 0.95 g/cm<sup>3</sup> (solid)
- Relative Vapor Density: >1 (air=1)
- Particle Characteristics: Fine crystalline powder
- Explosive Properties: Not explosive
- Oxidizing Properties: None (weak reducing property)
- Hygroscopy: Slight hygroscopy

## **SECTION 10: Stability and Reactivity**

10.1 Chemical Stability: Stable under recommended storage conditions (≤20°C, dark, sealed, anaerobic); sensitive to light, heat, oxygen and moisture, easy to oxidize and lose activity.

10.2 Possibility of Hazardous Reactions: No hazardous reactions under normal use and storage conditions.

10.3 Conditions to Avoid: Direct sunlight, high temperature (>60°C), contact with oxygen, moisture, strong acids, strong bases and oxidizing agents.

10.4 Incompatible Materials: Strong acids, strong bases, oxidizing agents, halogens, light-sensitive materials and moisture-absorbing materials.

10.5 Hazardous Decomposition Products: No hazardous decomposition products; oxidizes under light/heat/oxygen to produce retinoic acid (non-toxic, with partial biological activity); decomposes at high temperature to produce non-hazardous hydrocarbon compounds.

## **SECTION 11: Toxicological Information**

11.1 Information on Toxicological Effects

- Acute Toxicity: Oral (Rat, LD<sub>50</sub>): >3000 mg/kg; Dermal (Rabbit, LD<sub>50</sub>): >5000 mg/kg; Inhalation (Rat, LC<sub>50</sub>): >15 mg/m<sup>3</sup> (4-hour exposure, dust)
- Skin Corrosion/Irritation: Category 3 (Rabbit, 4-hour exposure: mild transient redness, reversible within 24h)
- Serious Eye Damage/Eye Irritation: Category 2 (Rabbit, 24-hour exposure; mild irritation, reversible within 48h)



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- Respiratory or Skin Sensitization: No sensitizing effects (human and animal tests)
- Germ Cell Mutagenicity: Negative (Ames test, chromosome aberration test)
- Carcinogenicity: Not classified as carcinogenic by IARC, EPA, or NTP
- Reproductive Toxicity: No reproductive toxic effects (rat and rabbit teratogenicity tests, NOAEL: 500 mg/kg/day)
- Specific Target Organ Toxicity (Single/Repeated Exposure): No target organ toxicity
- Aspiration Hazard: Low (solid powder, low dust flying tendency)

11.2 Additional Information The toxicological properties have been fully studied; the product is a safe nutrient in compliance with the specified dosage, with no obvious toxic effects on the human body and animals.

### SECTION 12: Ecological Information

12.1 Toxicity: Fish (Zebrafish, LC<sub>50</sub>): >2000 mg/L (96-hour exposure); Daphnia (EC<sub>50</sub>): >1000 mg/L (48-hour exposure); Algae (EC<sub>50</sub>): >2000 mg/L (72-hour exposure)  
12.2 Persistence and Degradability: Fully biodegradable in natural environment (BOD<sub>5</sub>/COD > 0.5), degraded into carbon dioxide and water by microorganisms within 28 days.  
12.3 Bioaccumulative Potential: Low bioaccumulation potential (rapidly metabolized in organisms, no accumulation in the food chain)  
12.4 Mobility in Soil: Low mobility in soil, easily adsorbed by soil organic matter, no leaching risk to groundwater.  
12.5 Results of PBT and vPvB Assessment: Not classified as PBT/vPvB (biodegradable, low bioaccumulation)  
12.6 Endocrine Disrupting Properties: No data available; no endocrine disrupting effects reported in existing studies.  
12.7 Other Adverse Effects: No known adverse ecological impacts at normal use concentration.

### SECTION 13: Disposal Considerations

#### 13.1 Waste Treatment Methods

- Product Waste: Small amount of waste can be mixed with combustible waste and incinerated in a licensed incineration plant; large amount of waste can be recycled and refined for reuse. Do not discharge directly into the environment.
- Packaging Waste: Rinse the brown glass packaging with ethanol for 2~3 times, dry it and recycle it; the contaminated packaging is disposed of as general industrial waste in accordance with local regulations.
- Spill Waste: The collected spilled powder is sealed and sent to a licensed solid waste treatment plant for disposal, and shall not be stacked at will.

13.2 Disposal Notes Comply with local, national and international waste disposal regulations; do not mix with hazardous waste for disposal; the disposal operation shall be carried out by professional personnel.

### SECTION 14: Transport Information

14.1 UN Number: ADR/RID: -; IMDG: -; IATA-DGR: -  
14.2 UN Proper Shipping Name: ADR/RID: Not dangerous goods; IMDG: Not dangerous goods; IATA-DGR: Not dangerous goods  
14.3 Transport Hazard Class(es): ADR/RID: -; IMDG: -; IATA-DGR: -  
14.4 Packaging Group: ADR/RID: -;



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IMDG: -; IATA-DGR: -14.5 Environmental Hazards: ADR/RID: No; IMDG Marine Pollutant: No; IATA-DGR: No 14.6 Special Precautions for User: Transport in sealed light-shielding and anaerobic packaging (brown glass/aluminum foil filled with nitrogen); transport temperature  $\leq 25^{\circ}\text{C}$ , avoid direct sunlight, high temperature and collision during transport. Separate from strong acids, strong bases and oxidizing agents during transport. 14.7 Incompatible Materials: Avoid transport with strong acids, strong bases, oxidizing agents, light-sensitive materials and moisture-absorbing materials.

**Further Information:** Not classified as dangerous under international and national transport regulations.

### SECTION 15: Regulatory Information

15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture

- National Regulations (China): Food Safety Law; Pharmaceutical Administration Law; Feed Additive Management Regulations; Hazardous Chemical Safety Management Regulation (Non-hazardous classification)
- International Regulations: GHS Classification (Rev. 9): Category 2 (eye irritation), Category 3 (skin irritation); REACH (EU): Registered in the REACH Inventory; TSCA (US): Listed on the TSCA Inventory; Comply with USP, EP, ChP pharmacopoeia standards.

15.2 Other Regulations: Comply with local food, pharmaceutical and cosmetic additive use regulations; the use amount shall meet the national limit standards for food fortifiers and feed additives.

### SECTION 16: Other Information

- Further Information: This MSDS is based on current scientific knowledge and complies with GB/T 16483, GB/T 17519, GHS, IMDG and IATA standards. It is intended for safe handling, storage, transport and disposal of the product. The supplier is not liable for damage caused by improper use, storage or non-compliance with safety precautions.
- Revision Date: 25 FEB 2026