

**Material Safety Data Sheet**

Version 3.2  
Revision Date 01/11/2008  
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**1. PRODUCT AND COMPANY IDENTIFICATION**

Product name : Retinol

Product Number : 17772  
Brand : Fluka

Company : Sigma-Aldrich  
3050 Spruce Street  
SAINT LOUIS MO 63103  
USA

Telephone : +1 800-325-5832  
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**2. COMPOSITION/INFORMATION ON INGREDIENTS**

Synonyms : Axerophthol  
Vitamin A  
**Vitamin A alcohol**  
Vitamin A1  
**all-trans-3,7-Dimethyl-9-(2,6,6-trimethyl-1-cyclohexen-1-yl)-  
2,4,6,8-nonatetraen-1-ol**

Formula : **C<sub>20</sub>H<sub>30</sub>O**  
Molecular Weight : **286.46 g/mol**

CAS-No.	EC-No.	Index-No.	Concentration
Retinol			
68-26-8	200-683-7	-	-

**3. HAZARDS IDENTIFICATION**

**Emergency Overview**  
**OSHA Hazards**  
Harmful by ingestion.  
Irritant

**HMIS Classification**  
Health Hazard: 2  
Flammability: 0  
Physical hazards: 0

**NFPA Rating**  
Health Hazard: 2  
Fire : 0

**Reactivity Hazard: 0**

**Potential Health Effects**

Inhalation	May be harmful if inhaled. May cause respiratory tract irritation.
Skin	May be harmful if absorbed through skin. May cause skin irritation.
Eyes	May cause eye irritation.
Ingestion	Harmful if swallowed.

**4. FIRST AID MEASURES**

**General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

**If inhaled**

If breathed in, move person into fresh air. If not breathing give artificial respiration. Consult a physician.

**In case of skin contact**

Wash off with soap and plenty of water. Consult a physician.

**In case of eye contact**

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

**If swallowed**

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

**5. FIRE-FIGHTING MEASURES**

**Flammable properties**

Flash point no data available

Ignition no data available

temperature

**Suitable extinguishing media**

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Special protective equipment for fire-fighters**

Wear self contained breathing apparatus for fire fighting if necessary.

**6. ACCIDENTAL RELEASE MEASURES**

**Personal precautions**

Use personal protective equipment. Avoid dust formation. Avoid breathing dust. Ensure adequate ventilation.

**Environmental precautions**

Do not let product enter drains.

**Methods for cleaning up**

Pick up and arrange disposal without creating dust. Keep in suitable, closed containers for disposal.

**7. HANDLING AND STORAGE**

**Handling**

Avoid contact with skin and eyes. Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

**Storage**

Keep container tightly closed in a dry and well-ventilated place.

Recommended storage temperature: -20 °C

Air and moisture sensitive. Store under nitrogen.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

### Personal protective equipment

#### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a dust mask type N95 (US) or type P1 (EN 143) respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

#### Hand protection

Handle with gloves.

#### Eye protection

Safety glasses

#### Skin and body protection

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

#### Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Appearance

Form                      solid

### Safety data

pH	no data available
Melting point	61 - 63 °C (142 - 145 °F)
Boiling point	no data available
Flash point	no data available
Ignition temperature	no data available
Lower explosion limit	no data available
Upper explosion limit	no data available
Water solubility	no data available

## 10. STABILITY AND REACTIVITY

### Storage stability

Stable under recommended storage conditions.

### Materials to avoid

Oxidizing agents

### Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides

## 11. TOXICOLOGICAL INFORMATION

**Acute toxicity**

LD50 Oral - rat - 2,000 mg/kg

**Irritation and corrosion**

no data available

**Sensitisation**

no data available

**Chronic exposure**

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Laboratory experiments have shown teratogenic effects.

**Signs and Symptoms of Exposure**

Congenital abnormalities may occur after exposure to high concentrations during pregnancy., hypervitaminosis A, yellow pigmentation, Irritability, loss of appetite, Gastrointestinal disturbance, Repeated exposure may cause skin dryness or cracking., Acute vitamin A intoxication may occur with exposure to high concentrations., sedation, Headache, exfoliative lesions

**Potential Health Effects**

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**12. ECOLOGICAL INFORMATION****Elimination information (persistence and degradability)**

no data available

**Ecotoxicity effects**

no data available

**Further information on ecology**

no data available

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**13. DISPOSAL CONSIDERATIONS****Product**

Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.

**Contaminated packaging**

Dispose of as unused product.

#### 14. TRANSPORT INFORMATION

**DOT (US)**

Not dangerous goods

**IMDG**

Not dangerous goods

**IATA**

Not dangerous goods

#### 15. REGULATORY INFORMATION

**OSHA Hazards**

Harmful by ingestion., Irritant

**TSCA Status**

On TSCA Inventory

**DSL Status**

All components of this product are on the Canadian DSL list.

**SARA 302 Components**

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components**

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**SARA 311/312 Hazards**

Acute Health Hazard

**Massachusetts Right To Know Components**

Retinol

CAS-No.  
68-26-8

Revision Date  
1991-07-01

**Pennsylvania Right To Know Components**

Retinol

CAS-No.  
68-26-8

Revision Date  
1991-07-01

**New Jersey Right To Know Components**

Retinol

CAS-No.  
68-26-8

Revision Date  
1991-07-01

**California Prop. 65 Components**

WARNING! This product contains a chemical known in the State of California to cause birth defects or other reproductive harm.

CAS-No.  
68-26-8

Revision Date  
1989-07-01

Retinol

#### 16. OTHER INFORMATION

**Further information**

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