



# VITAMIN A (RETINOL) (95% CHEMICAL PURITY) (12,13,14,20-13C4, 99%) (50 PPM BHT)

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations  
Issue date: 2/24/2017 Revision date: 3/1/2023 Supersedes: 4/30/2021 Version: 6.1

### SECTION 1: Identification

#### 1.1. Identification

Product form	: Substance
Substance name	: VITAMIN A (RETINOL) (95% CHEMICAL PURITY) (12,13,14,20-13C4, 99%) (50 PPM BHT)
CAS-No.	: 68-26-8
Product code	: CLM-10259
Formula	: C16*C4H30O
Synonyms	: Axerophthol / Vitamin A1 / Vitamin A alcohol / all-trans-3,7-Dimethyl-9-(2,6,6-trimethyl-1-cyclohexen-1-yl)-2,4,6,8-nonatetraen-1-ol / Vitamin A

#### 1.2. Recommended use and restrictions on use

No additional information available

#### 1.3. Supplier

Cambridge Isotope Laboratories, Inc.  
50 Frontage Rd  
01810  
ANDOVER, MA, 01810  
USA  
T 1-800-322-1174  
[cilsales@isotope.com](mailto:cilsales@isotope.com) - [www.isotope.com](http://www.isotope.com)

#### 1.4. Emergency telephone number

Emergency number : 1-703-741-5970  
Chemtrec 1-800-424-9300 24 hours

### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

##### GHS US classification

Serious eye damage/eye irritation Category 2	H319	Causes serious eye irritation
Skin sensitization, Category 1	H317	May cause an allergic skin reaction
Reproductive toxicity Category 1A	H360	May damage fertility or the unborn child (Dermal, Inhalation, oral)
Hazardous to the aquatic environment – Chronic Hazard Category 4	H413	May cause long lasting harmful effects to aquatic life

Full text of H statements : see section 16

#### 2.2. GHS Label elements, including precautionary statements

##### GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) : Danger  
Hazard statements (GHS US) : H317 - May cause an allergic skin reaction  
H319 - Causes serious eye irritation

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Precautionary statements (GHS US)	H360 - May damage fertility or the unborn child (Dermal, Inhalation, oral) H413 - May cause long lasting harmful effects to aquatic life : P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P261 - Avoid breathing vapors, spray, mist, gas, dust. P264 - Wash hands thoroughly after handling. P272 - Contaminated work clothing must not be allowed out of the workplace. P273 - Avoid release to the environment. P280 - Wear protective gloves, protective clothing. P302+P352 - If on skin: Wash with plenty of 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. P308+P313 - If exposed or concerned: Get medical advice/attention. P321 - Specific treatment (see Hazardous component(s) for labeling on this label). P333+P313 - If skin irritation or rash occurs: Get medical advice/attention. P337+P313 - If eye irritation persists: Get medical advice/attention. P363 - Wash contaminated clothing before reuse. P405 - Store locked up. P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.
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### 2.3. Other hazards which do not result in classification

No additional information available

### 2.4. Unknown acute toxicity (GHS US)

Not applicable

## SECTION 3: Composition/Information on ingredients

### 3.1. Substances

Name	Product identifier	%	GHS US classification
VITAMIN A (RETINOL) (95% CHEMICAL PURITY) (12,13,14,20-13C4, 99%) (50 PPM BHT) (Main constituent)	CAS-No.: 68-26-8	100	Eye Irrit. 2, H319 Skin Sens. 1, H317 Repr. 1A, H360 Aquatic Chronic 4, H413

Full text of hazard classes and H-statements : see section 16

### 3.2. Mixtures

Not applicable

## SECTION 4: First-aid measures

### 4.1. Description of first aid measures

First-aid measures general	: Evacuate danger area. IF exposed or concerned: Get medical advice/attention.
First-aid measures after inhalation	: When symptoms occur: go into open air and ventilate suspected area. If not breathing, give artificial respiration. Get medical advice/attention.
First-aid measures after skin contact	: Wash with plenty of soap and water. Get immediate medical advice/attention. Specific treatment (see Hazard pictograms (CLP) on this label). Wash contaminated clothing before reuse.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes.
First-aid measures after ingestion	: Never give anything by mouth to an unconscious person. Rinse mouth out with water. Get medical advice/attention.

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### 4.2. Most important symptoms and effects (acute and delayed)

Potential Adverse human health effects and symptoms	: Congenital abnormalities may occur after exposure to high concentrations during pregnancy. Hypervitaminosis A. Yellow pigmentation. Irritability. Loss of appetite. Gastrointestinal disturbance. Skin disorders. Acute vitamin A intoxication may occur with exposure to high concentrations. . Sedation. Headache. Exfoliative lesions. This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.
Symptoms/effects	: May damage fertility. May damage the unborn child. (in contact with skin, if inhaled, if swallowed).
Symptoms/effects after inhalation	: May be harmful if inhaled. May cause respiratory irritation.
Symptoms/effects after skin contact	: May be harmful in contact with skin. May cause an allergic skin reaction.
Symptoms/effects after eye contact	: Causes serious eye irritation.
Symptoms/effects after ingestion	: May be harmful if swallowed.

### 4.3. Immediate medical attention and special treatment, if necessary

No additional information available

## SECTION 5: Fire-fighting measures

### 5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Dry chemical powder, alcohol-resistant foam, carbon dioxide (CO2).

### 5.2. Specific hazards arising from the chemical

Hazardous decomposition products in case of fire : Carbon oxides (CO, CO2).

### 5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions	: Fight fire with normal precautions from a reasonable distance. Wear a self contained breathing apparatus. Do not enter fire area without proper protective equipment, including respiratory protection.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection. Wear recommended personal protective equipment.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

#### 6.1.1. For non-emergency personnel

Emergency procedures : Use personal protective equipment as required. Avoid dust formation. Ensure adequate air ventilation. Avoid breathing dust, vapors, mist, gas.

#### 6.1.2. For emergency responders

No additional information available

### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Do not allow to enter drains or water courses. Avoid release to the environment.

### 6.3. Methods and material for containment and cleaning up

For containment : Take up mechanically (sweeping, shoveling) and collect in suitable container for disposal. This material and its container must be disposed of in a safe way, and as per local legislation.

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### 6.4. Reference to other sections

No additional information available

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling	: Avoid contact with skin. Provide adequate ventilation to minimize dust and/or vapor concentrations. Avoid breathing dust, gas, vapors, spray. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use.
Hygiene measures	: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

### 7.2. Conditions for safe storage, including any incompatibilities

Technical measures	: Store in a well-ventilated place. Keep container tightly closed.
Storage conditions	: Store in freezer (-20°C). Protect from light, air and moisture.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### VITAMIN A (RETINOL) (95% CHEMICAL PURITY) (12,13,14,20-13C4, 99%) (50 PPM BHT) (68-26-8)

No additional information available

### 8.2. Appropriate engineering controls

Appropriate engineering controls	: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.
Environmental exposure controls	: Avoid release to the environment.

### 8.3. Individual protection measures/Personal protective equipment

#### Personal protective equipment:

Gloves. Protective clothing. Protective goggles. Self-contained breathing apparatus.

#### Materials for protective clothing:

Wear suitable protective clothing and gloves

#### Hand protection:

Wear suitable protective clothing and gloves

#### Eye protection:

Wear eye protection. Chemical goggles or face shield with safety glasses

#### Skin and body protection:

Wear suitable protective clothing, gloves and eye/face protection

#### Respiratory protection:

In case of inadequate ventilation wear respiratory protection. Approved supplied air respirator

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### Personal protective equipment symbol(s):



## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Low melting solid.
Color	: Yellow
Odor	: No data available
Odor threshold	: No data available
pH	: No data available
Melting point	: 61 – 63 °C (142 - 145 °F)
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: No data available
Relative vapor density at 20°C	: No data available
Relative density	: No data available
Molecular mass	: 290.42 g/mol (Labeled)
Solubility	: No data available
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

### 10.2. Chemical stability

Six months after receipt if stored as stated in "Storage" section. Re-QC after six months.

### 10.3. Possibility of hazardous reactions

No additional information available

### 10.4. Conditions to avoid

No additional information available

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### 10.5. Incompatible materials

Strong oxidizing agents.

### 10.6. Hazardous decomposition products

Carbon oxides (CO, CO2).

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified
Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitization	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: May damage fertility or the unborn child (Dermal, Inhalation, oral).
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified
Viscosity, kinematic	: No data available
Potential Adverse human health effects and symptoms	: Congenital abnormalities may occur after exposure to high concentrations during pregnancy. Hypervitaminosis A. Yellow pigmentation. Irritability. Loss of appetite. Gastrointestinal disturbance. Skin disorders. Acute vitamin A intoxication may occur with exposure to high concentrations. . Sedation. Headache. Exfoliative lesions. This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.
Symptoms/effects	: May damage fertility. May damage the unborn child. (in contact with skin, if inhaled, if swallowed).
Symptoms/effects after inhalation	: May be harmful if inhaled. May cause respiratory irritation.
Symptoms/effects after skin contact	: May be harmful in contact with skin. May cause an allergic skin reaction.
Symptoms/effects after eye contact	: Causes serious eye irritation.
Symptoms/effects after ingestion	: May be harmful if swallowed.

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - water : May cause long lasting harmful effects to aquatic life.

#### VITAMIN A (RETINOL) (95% CHEMICAL PURITY) (12,13,14,20-13C4, 99%) (50 PPM BHT) (68-26-8)

LC50 - Fish [1]	> 10000 mg/l - Leuciscus idus (Golden orfe) - 96 h; (DIN 38412)
EC50 - Crustacea [1]	> 100 mg/l - Daphnia magna (Water flea) - 48 h (OECD Test Guideline 202)
EC50 - Other aquatic organisms [1]	> 1000 mg/l Respiration inhibition EC50 - Sludge Treatment - 180 min; (OECD Test Guideline 209)

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### 12.2. Persistence and degradability

#### VITAMIN A (RETINOL) (95% CHEMICAL PURITY) (12,13,14,20-13C4, 99%) (50 PPM BHT) (68-26-8)

Persistence and degradability

May cause long-term adverse effects in the environment.

### 12.3. Bioaccumulative potential

No additional information available

### 12.4. Mobility in soil

No additional information available

### 12.5. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Disposal methods

Regional legislation (waste)	: Waste materials should be disposed of under conditions which meet Federal, State, and local environmental control regulations.
Product/Packaging disposal recommendations	: Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.
Ecology - waste materials	: Dispose of as unused product.

## SECTION 14: Transport information

In accordance with DOT / TDG / IMDG / IATA

### 14.1. UN number

Not regulated for transport

### 14.2. UN proper shipping name

Proper Shipping Name (DOT)	: Not applicable
Proper Shipping Name (TDG)	: Not applicable
Proper Shipping Name (IMDG)	: Not applicable
Proper Shipping Name (IATA)	: Not applicable

### 14.3. Transport hazard class(es)

**DOT**  
Transport hazard class(es) (DOT) : Not applicable

**TDG**  
Transport hazard class(es) (TDG) : Not applicable

**IMDG**  
Transport hazard class(es) (IMDG) : Not applicable

**IATA**  
Transport hazard class(es) (IATA) : Not applicable

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### 14.4. Packing group

Packing group (DOT)	: Not applicable
Packing group (TDG)	: Not applicable
Packing group (IMDG)	: Not applicable
Packing group (IATA)	: Not applicable

### 14.5. Environmental hazards

Other information	: No supplementary information available.
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### 14.6. Special precautions for user

Special transport precautions	: Not classified as dangerous in the meaning of transport regulations
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#### DOT

No data available

#### TDG

No data available

#### IMDG

No data available

#### IATA

No data available

### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

#### VITAMIN A (RETINOL) (95% CHEMICAL PURITY) (12,13,14,20-13C4, 99%) (50 PPM BHT) (68-26-8)

SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard

Commercial status of components according to the United States Environmental Protection Agency's Toxic Substances Control Act (TSCA):

Name	CAS-No.	Listing	Commercial status	Flags
VITAMIN A (RETINOL) (95% CHEMICAL PURITY) (12,13,14,20-13C4, 99%) (50 PPM BHT)	68-26-8	Not present	-	

### 15.2. International regulations

#### CANADA

#### VITAMIN A (RETINOL) (95% CHEMICAL PURITY) (12,13,14,20-13C4, 99%) (50 PPM BHT) (68-26-8)

Listed on the Canadian DSL (Domestic Substances List)

#### EU-Regulations

No additional information available



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### National regulations

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CAUTION: This material is supplied for research and development purposes subject to the R&D exemption under TSCA, 40 CFR 720.36, and must meet the requirements of the exemption, including supervision by a "technically qualified individual" as defined by 40 CFR 720.3(ee). The use of this material for "commercial purposes" as defined by 40 CFR 720.3(r) is not permitted in the United States.

### 15.3. US State regulations

#### VITAMIN A (RETINOL) (95% CHEMICAL PURITY) (12,13,14,20-13C4, 99%) (50 PPM BHT) (68-26-8)

U.S. - California - Proposition 65 - Carcinogens List	No
U.S. - California - Proposition 65 - Developmental Toxicity	Yes
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	Yes
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	Yes
State or local regulations	U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List

### SECTION 16: Other information

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Revision date

: 03/01/2023

Other information

: This product is not radioactive. The data given for this product are those of the corresponding unlabeled compound, unless specifically indicated otherwise. Health and safety data for labeled compounds are generally not available, but are assumed to be similar or identical to the corresponding unlabeled compound.

#### Full text of H-phrases

H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H360	May damage fertility or the unborn child
H413	May cause long lasting harmful effects to aquatic life

Safety Data Sheet (SDS), USA

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.