



VITAMIN A (RETINOL) (95% CHEMICAL PURITY) (19,19,19,20,20,20-D6, 96%+) (50 PPM BHT)

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 31/05/2013

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Version: 7.0

DLM-8113

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form	: Substance
Substance name	: VITAMIN A (RETINOL) (95% CHEMICAL PURITY) (19,19,19,20,20,20-D6, 96%+) (50 PPM BHT)
EC-No.	: 200-683-7 (Unlabeled)
CAS-No.	: 68-26-8 (Unlabeled)
Product code	: DLM-8113
Formula	: C ₂₀ H ₂₄ D ₆ O
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. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Main use category	: Professional use
Industrial/Professional use spec	: For professional use only

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Cambridge Isotope Laboratories, Inc.
50 Frontage Road
Andover, MA 01810
USA

USA: 1-800-322-1174 Int: 1-978-749-8000

cilsales@isotope.com www.isotope.com

Emergency telephone number

Emergency numbers:

Chemtrec: 1-800-424-9300 (24 hours)

International: 1-703-741-5970 (24 hours)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Eye Irrit. 2 H319

Skin Sens. 1 H317

Repr. 1B H360

Aquatic Chronic 4 H413

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

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

R43

Xi; R36

Repr.Cat.1; R60

Repr.Cat.1; R61

R53

Full text of R-phrases: see section 16

GHS-US classification

Eye Irrit. 2A H319

Skin Sens. 1 H317

Repr. 1A H360

Aquatic Chronic 4 H413

Full text of H statements : see section 16

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Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labeling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)



GHS08

GHS07

Signal word (CLP)

: Danger

Hazard statements (CLP)

: H317 - May cause an allergic skin reaction
H319 - Causes serious eye irritation
H360 - May damage fertility. May damage the unborn child. (in contact with skin, if inhaled, if swallowed)
H413 - May cause long lasting harmful effects to aquatic life

Precautionary statements (CLP)

: P261 - Avoid breathing dust, fume, mist, gas, spray, vapors.
P264 - Wash hands, forearms and face thoroughly after handling.
P272 - Contaminated work clothing should not be allowed out of the workplace.
P273 - Avoid release to the environment.
P280 - Wear protective clothing, protective gloves.
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.
P308+P313 - IF exposed or concerned: Get medical advice/attention.

GHS-US labeling

Hazard pictograms (GHS-US)



GHS08

GHS07

Signal word (GHS-US)

: Danger

Hazard statements (GHS-US)

: H317 - May cause an allergic skin reaction
H319 - Causes serious eye irritation
H360 - (Dermal, Inhalation, oral)
H413 - May cause long lasting harmful effects to aquatic life

Precautionary statements (GHS-US)

: P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P261 - Avoid breathing dust, fume, mist, gas, spray, vapors.
P264 - Wash Both 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 clothing, protective gloves.
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 Hazard pictograms (CLP) 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.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P405 - Store locked up.
P501 - Dispose of contents/container to Comply with applicable regulations

2.3. Other hazards

No additional information available

SECTION 3: Composition/Information on ingredients

3.1. Substances

VITAMIN A (RETINOL) (95% CHEMICAL PURITY) (19,19,19,20,20,20-D6, 96%+) (50 PPM BHT)

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Name	Product identifier	%	Classification according to Directive 67/548/EEC
VITAMIN A (RETINOL) (95% CHEMICAL PURITY) (19,19,19,20,20,20-D6, 96%+) (50 PPM BHT)	(CAS-No.) 68-26-8 (Unlabeled) (EC-No.) 200-683-7 (Unlabeled)	100	R43 Xi; R36 Repr.Cat.1; R60 Repr.Cat.1; R61 R53

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
VITAMIN A (RETINOL) (95% CHEMICAL PURITY) (19,19,19,20,20,20-D6, 96%+) (50 PPM BHT)	(CAS-No.) 68-26-8 (Unlabeled) (EC-No.) 200-683-7 (Unlabeled)	100	Eye Irrit. 2, H319 Skin Sens. 1, H317 Repr. 1B, H360 Aquatic Chronic 4, H413

Full text of R- and H- phrases: see section 16

Name	Product identifier	%	GHS-US classification
VITAMIN A (RETINOL) (95% CHEMICAL PURITY) (19,19,19,20,20,20-D6, 96%+) (50 PPM BHT) (Main constituent)	(CAS-No.) 68-26-8 (Unlabeled)	100	Eye Irrit. 2A, H319 Skin Sens. 1, H317 Repr. 1A, H360 Aquatic Chronic 4, H413

Full text of H-phrases: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.
First-aid measures after inhalation	: If breathed in, move person to fresh air. If not breathing, give artificial respiration. Consult a physician.
First-aid measures after skin contact	: Wash with soap and plenty of water. Consult a physician.
First-aid measures after eye contact	: Flush eyes with water as a precaution.
First-aid measures after ingestion	: Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects after inhalation	: May be harmful if inhaled. Causes respiratory tract irritation.
Symptoms/effects after skin contact	: May be harmful if absorbed through the skin. Causes skin irritation.
Symptoms/effects after eye contact	: Causes eye irritation.
Symptoms/effects after ingestion	: Harmful if swallowed.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.

5.2. Special hazards arising from the substance or mixture

No additional information available

5.3. Advice for firefighters

Firefighting instructions	: Wear self contained breathing apparatus for fire fighting if necessary.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Not flammable or combustible.

6.1.1. For non-emergency personnel

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

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6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Do not let product enter drains.

6.3. Methods and material for containment and cleaning up

For containment : Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : 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.

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

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in freezer (-20°C). Protect from light, air and moisture.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Hand protection : Wear suitable protective clothing and gloves.

Eye protection : Wear safety glasses with side shields (or goggles) and a face shield.

Skin and body protection : Wear complete suit protecting against chemicals according to concentration and amount of substance.

Respiratory protection : When appropriate, use NIOSH/CEN approved respirator.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Low melting solid
Molecular mass	: 292.49 g/mol (Labeled)
Color	: Yellow
Odor	: No data available
Odor threshold	: No data available
pH	: No data available
Relative evaporation rate (butyl acetate=1)	: 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
Auto-ignition temperature	: No data available
Decomposition temperature	: 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
Solubility	: No data available
Log Pow	: No data available
Log Kow	: No data available

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Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Explosion limits	: 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

10.5. Incompatible materials

Oxidizing agents.

10.6. Hazardous decomposition products

Carbon oxides.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

VITAMIN A (RETINOL) (95% CHEMICAL PURITY) (19,19,19,20,20,20-D6, 96%+) (50 PPM BHT) (68-26-8 (Unlabeled))	
LD50 oral rat	2000 mg/kg
ATE CLP (oral)	2000.000 mg/kg body weight

Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Eyes - Rabbit Result: Irritating to eyes - 24 h
Respiratory or skin sensitization	: In vivo assay - Guinea pig Result: May cause sensitization by skin contact.
Germ cell mutagenicity	: Ames test. S. typhimurium result: negative
Carcinogenicity	: Not classified
Reproductive toxicity	: May damage fertility. May damage the unborn child. (in contact with skin, if inhaled, if swallowed).
Specific target organ toxicity – single exposure	: Not classified
Specific target organ toxicity – repeated exposure	: Not classified
Aspiration hazard	: Not classified
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 dryness or cracking. Acute vitamin A intoxication may occur with exposure to high concentrations. . Sedation. Headache. Exfoliative lesions.
Symptoms/effects after inhalation	: May be harmful if inhaled. Causes respiratory tract irritation.
Symptoms/effects after skin contact	: May be harmful if absorbed through the skin. Causes skin irritation.
Symptoms/effects after eye contact	: Causes eye irritation.
Symptoms/effects after ingestion	: Harmful if swallowed.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

VITAMIN A (RETINOL) (95% CHEMICAL PURITY) (19,19,19,20,20,20-D6, 96%+) (50 PPM BHT) (68-26-8 (Unlabeled))	
LC50 fish 1	> 10000 mg/l static test - Leuciscus idus (Golden orfe) - 96 h - (DIN 38412)

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EC50 Daphnia 1	100 mg/l static test - Daphnia magna (Water flea) - 48 h (OECD Test Guideline 202)
EC50 other aquatic organisms 1	> 1000 mg/l Respiration inhibition - Sludge Treatment - 180 min - (OECD Test Guideline 209)

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

Other adverse effects : Disposal must be done according to official regulations. Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment 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 ADR / RID / IMDG / IATA / ADN

14.1. UN number

Not applicable

14.2. UN proper shipping name

Not applicable

14.3. Additional information

Other information : No supplementary information available.

Special transport precautions : Not dangerous goods.

Overland transport

No additional information available

Transport by sea

No additional information available

Air transport

No additional information available

14.4. Environmental hazards

Other information : No supplementary information available.

14.5. Special precautions for user

Special transport precautions : Not dangerous goods.

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

Not applicable

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SECTION 15: Regulatory information

15.1. US Federal regulations

VITAMIN A (RETINOL) (95% CHEMICAL PURITY) (19,19,19,20,20,20-D6, 96%+) (50 PPM BHT) (68-26-8 (Unlabeled))	
SARA Section 302 Threshold Planning Quantity (TPQ)	SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard
SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313

15.2. International regulations

CANADA

VITAMIN A (RETINOL) (95% CHEMICAL PURITY) (19,19,19,20,20,20-D6, 96%+) (50 PPM BHT) (68-26-8 (Unlabeled))
Not listed on the Canadian DSL (Domestic Substances List)

15.2.1. National regulations

No additional information available

15.3. US State regulations

VITAMIN A (RETINOL) (95% CHEMICAL PURITY) (19,19,19,20,20,20-D6, 96%+) (50 PPM BHT)(68-26-8 (Unlabeled))	
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

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.

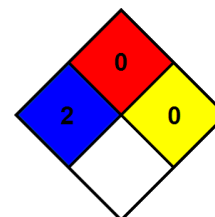
Full text of R-, H- and EUH-phrases:

Aquatic Chronic 4	Hazardous to the aquatic environment - Chronic Hazard Category 4
Eye Irrit. 2	Serious eye damage/eye irritation Category 2
Repr. 1B	Reproductive toxicity Category 1B
Skin Sens. 1	Skin sensitization, Category 1
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
R36	Irritating to eyes
R43	May cause sensitization by skin contact
R53	May cause long-term adverse effects in the aquatic environment
R60	May impair fertility
R61	May cause harm to the unborn child
Xi	Irritant

NFPA health hazard : 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.

NFPA fire hazard : 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.

NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.



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Hazard Rating

Health : 2 Moderate Hazard - Temporary or minor injury may occur

Flammability : 0 Minimal Hazard

Physical : 0 Minimal Hazard

CIL Substance SDS

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