



VITAMIN A PALMITATE (RETINYL PALMITATE)(ALL TRANS, <4% CIS) (10,19,19,19-D4, 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: 07/04/2011

Revision date: 28/07/2022

Supersedes: 14/05/2019

Version: 4.1

DLM-4902

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

1.1. Product identifier

Product form	: Substance
Substance name	: VITAMIN A PALMITATE (RETINYL PALMITATE)(ALL TRANS, <4% CIS) (10,19,19,19-D4, 96%) (50 PPM BHT)
EC-No.	: 201-228-5 (Unlabeled)
CAS-No.	: 79-81-2 (Unlabeled)
Product code	: DLM-4902
Formula	: C36H56D4O2
Synonyms	: Vitamin A palmitate; all trans-Retinol palmitate

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]

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]

Repr.Cat.2; R60

Repr.Cat.2; R61

R53

Full text of R-phrases: see section 16

GHS-US classification

Repr. 1B H360

Aquatic Chronic 4 H413

Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

VITAMIN A PALMITATE (RETINYL PALMITATE)(ALL TRANS, <4% CIS) (10,19,19,19-D4, 96%) (50 PPM BHT)

DLM-4902

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

2.2. Label elements

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

Hazard pictograms (CLP) :



GHS08

Signal word (CLP) :

: Danger

Hazard statements (CLP) :

: 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) :

: P273 - Avoid release to the environment.

P280 - Wear protective clothing, protective gloves.

P308+P313 - IF exposed or concerned: Get medical advice/attention.

P405 - Store locked up.

P501 - Dispose of contents/container to Comply with applicable regulations

GHS-US labeling

Hazard pictograms (GHS-US) :



GHS08

Signal word (GHS-US) :

: Danger

Hazard statements (GHS-US) :

: 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.

P273 - Avoid release to the environment.

P280 - Wear protective clothing, protective gloves.

P308+P313 - If exposed or concerned: Get medical advice/attention.

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

Name	Product identifier	%	Classification according to Directive 67/548/EEC
VITAMIN A PALMITATE (RETINYL PALMITATE)(ALL TRANS, <4% CIS) (10,19,19,19-D4, 96%) (50 PPM BHT)	(CAS-No.) 79-81-2 (Unlabeled) (EC-No.) 201-228-5 (Unlabeled)	100	Repr.Cat.2; R60 Repr.Cat.2; R61 R53

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
VITAMIN A PALMITATE (RETINYL PALMITATE)(ALL TRANS, <4% CIS) (10,19,19,19-D4, 96%) (50 PPM BHT)	(CAS-No.) 79-81-2 (Unlabeled) (EC-No.) 201-228-5 (Unlabeled)	100	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 PALMITATE (RETINYL PALMITATE)(ALL TRANS, <4% CIS) (10,19,19,19-D4, 96%) (50 PPM BHT) (Main constituent)	(CAS-No.) 79-81-2 (Unlabeled)	100	Repr. 1B, H360 Aquatic Chronic 4, H413

Full text of H-phrases: see section 16

3.2. Mixtures

Not applicable

VITAMIN A PALMITATE (RETINYL PALMITATE)(ALL TRANS, <4% CIS) (10,19,19,19-D4, 96%) (50 PPM BHT)

DLM-4902

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

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: If you feel unwell, seek medical advice (show the label where possible). Evacuate danger area.
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. and soap. Get immediate medical advice/attention.
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.

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

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 moderate irritation.
Symptoms/effects after eye contact	: May cause eye irritation.
Symptoms/effects after ingestion	: May be harmful if swallowed.
Chronic symptoms	: May damage the unborn child.

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	: Suitable extinguishing agents: Carbon dioxide, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
------------------------------	--

5.2. Special hazards arising from the substance or mixture

No additional information available

5.3. Advice for firefighters

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	: Avoid breathing vapors, mist, gas. Avoid dust formation.
----------------------	--

6.1.2. For emergency responders

Protective equipment	: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
----------------------	---

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	: Clean up any spills as soon as possible, using an absorbent material to collect it. Small quantities of liquid spill: take up in non-combustible absorbent material and shovel into container for disposal. For large spills, confine the spill in a dike and charge it with wet sand or earth for subsequent safe disposal.
Methods for cleaning up	: This material and its container must be disposed of in a safe way, and as per local legislation.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	: Provide adequate ventilation to minimize dust and/or vapor concentrations.
Hygiene measures	: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures	: Store in a well-ventilated place. Keep container tightly closed.
--------------------	--

VITAMIN A PALMITATE (RETINYL PALMITATE)(ALL TRANS, <4% CIS) (10,19,19,19-D4, 96%) (50 PPM BHT)

DLM-4902

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

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

Appropriate engineering controls : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

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.

Environmental exposure controls : Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Viscous Liquid
Molecular mass	: 528.89 g/mol (Labeled)
Color	: Colorless
Odor	: No data available
Odor threshold	: No data available
pH	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: 26 °C (79 °F)
Freezing point	: No data available
Boiling point	: 100 °C (212 °F)
Flash point	: 194 °C (381 °F) - closed cup
Auto-ignition temperature	: 261 °C (502 °F) at 1,006 - 1,014 hPa (755 - 761 mmHg)
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
Specific gravity / density	: 0.921 g/ml at 20 °C (68 °F)
Solubility	: Water: 0.001 g/l at 25 °C (77 °F)
Log Pow	: 10.3
Log Kow	: No data available
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

VITAMIN A PALMITATE (RETINYL PALMITATE)(ALL TRANS, <4% CIS) (10,19,19,19-D4, 96%) (50 PPM BHT)

DLM-4902

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

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Two years after receipt if stored as stated in "Storage" section. Re-QC after 2 years.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

Air sensitive. Exposure to light. Direct sources of heat.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

formed under fire conditions: Carbon oxides.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

VITAMIN A PALMITATE (RETINYL PALMITATE)(ALL TRANS, <4% CIS) (10,19,19,19-D4, 96%) (50 PPM BHT) (79-81-2 (Unlabeled))

LD50 oral rat	> 2000 mg/kg
---------------	--------------

Skin corrosion/irritation : Skin - rabbit - No skin irritation - 4 h - OECD Test Guideline 404

Serious eye damage/irritation : Eyes - rabbit - No eye irritation - 72 h

Respiratory or skin sensitization : Maximisation Test - Guinea pig. Result: Does not cause skin sensitisation. (OECD Test Guideline 406)

Germ cell mutagenicity : AMES test. S. typhimurium result: negative. Mutagenicity (micronucleus test) - Mouse - male Result: negative

Carcinogenicity : Not classified

Reproductive toxicity : May damage the unborn child. Presumed human reproductive toxicant. Developmental toxicity

Specific target organ toxicity – single exposure : Not classified
No data available

Specific target organ toxicity – repeated exposure : Not classified

VITAMIN A PALMITATE (RETINYL PALMITATE)(ALL TRANS, <4% CIS) (10,19,19,19-D4, 96%) (50 PPM BHT) (79-81-2 (Unlabeled))

LOAEL (oral,rat,90 days)	5.77 - 12.97 mg/kg bodyweight/day mg/kg
--------------------------	---

NOAEL (oral,rat,90 days)	1.43 - 3.32 mg/kg bodyweight/day mg/kg Rat - Male - Oral
--------------------------	--

Aspiration hazard : Not classified

Potential Adverse human health effects and symptoms : 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 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 moderate irritation.

Symptoms/effects after eye contact : May cause eye irritation.

Symptoms/effects after ingestion : May be harmful if swallowed.

Chronic symptoms : May damage the unborn child.

SECTION 12: Ecological information

12.1. Toxicity

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

VITAMIN A PALMITATE (RETINYL PALMITATE)(ALL TRANS, <4% CIS) (10,19,19,19-D4, 96%) (50 PPM BHT) (79-81-2 (Unlabeled))

LC50 fish 1	> 10000 mg/l Leuciscus idus (Golden orfe) - 96 h
-------------	--

EC50 Daphnia 1	> 100 mg/l Daphnia magna (Water flea) - 48 h
----------------	--

EC50 other aquatic organisms 1	152.94 mg/l Desmodesmus subspicatus (green algae) - 72 h
--------------------------------	--

VITAMIN A PALMITATE (RETINYL PALMITATE)(ALL TRANS, <4% CIS) (10,19,19,19-D4, 96%) (50 PPM BHT)

DLM-4902

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

12.2. Persistence and degradability

VITAMIN A PALMITATE (RETINYL PALMITATE)(ALL TRANS, <4% CIS) (10,19,19,19-D4, 96%) (50 PPM BHT) (79-81-2 (Unlabeled))

Persistence and degradability	Biodegradability aerobic - Exposure time 28 d.
Biodegradation	50 - 60 % Partially biodegradable

12.3. Bioaccumulative potential

VITAMIN A PALMITATE (RETINYL PALMITATE)(ALL TRANS, <4% CIS) (10,19,19,19-D4, 96%) (50 PPM BHT) (79-81-2 (Unlabeled))

Log Pow	10.3
---------	------

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 : Not available.

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.

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

SECTION 15: Regulatory information

15.1. US Federal regulations

VITAMIN A PALMITATE (RETINYL PALMITATE)(ALL TRANS, <4% CIS) (10,19,19,19-D4, 96%) (50 PPM BHT) (79-81-2 (Unlabeled))

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	Delayed (chronic) health hazard
SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313

VITAMIN A PALMITATE (RETINYL PALMITATE)(ALL TRANS, <4% CIS) (10,19,19,19-D4, 96%) (50 PPM BHT)

DLM-4902

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

15.2. International regulations

CANADA

VITAMIN A PALMITATE (RETINYL PALMITATE)(ALL TRANS, <4% CIS) (10,19,19,19-D4, 96%) (50 PPM BHT) (79-81-2 (Unlabeled))

Listed on the Canadian DSL (Domestic Substances List)

15.2.1. National regulations

No additional information available

15.3. US State regulations

VITAMIN A PALMITATE (RETINYL PALMITATE)(ALL TRANS, <4% CIS) (10,19,19,19-D4, 96%) (50 PPM BHT)(79-81-2 (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	RTK - U.S. - Pennsylvania - RTK (Right to Know) List RTK - 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.

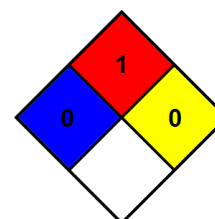
Full text of R-, H- and EUH-phrases:

Aquatic Chronic 4	Hazardous to the aquatic environment - Chronic Hazard Category 4
Repr. 1B	Reproductive toxicity Category 1B
H360	May damage fertility or the unborn child
H413	May cause long lasting harmful effects to aquatic life
R53	May cause long-term adverse effects in the aquatic environment
R60	May impair fertility
R61	May cause harm to the unborn child

NFPA health hazard : 0 - Materials that, under emergency conditions, would offer no hazard beyond that of ordinary combustible materials.

NFPA fire hazard : 1 - Materials that must be preheated before ignition can occur.

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



Hazard Rating

Health : 0 Minimal Hazard - No significant risk to health

Flammability : 1 Slight 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