

Safety Data Sheet

Dry Vitamin A-Palmitate 250 Food Grade

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Version: 8.0

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1. Identification

Product identifier used on the label

Dry Vitamin A-Palmitate 250 Food Grade

Recommended use of the chemical and restriction on use

Recommended use*: Vitamin

Unsuitable for use: Not intended for sale to or use by the general public.

* The "Recommended use" identified for this product is provided solely to comply with a Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

Details of the supplier of the safety data sheet

Company:

BASF CORPORATION
100 Park Avenue
Florham Park, NJ 07932, USA

Telephone: +1 973 245-6000

Emergency telephone number

24 Hour Emergency Response Information

CHEMTREC: 1-800-424-9300

BASF HOTLINE: 1-800-832-HELP (4357)

Other means of identification

Synonyms:

Preparation based on: Retinyl palmitate

2. Hazards Identification

According to Regulation 2024 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Classification of the product

Repr.
Combustible Dust

1B (unborn child)
Combustible Dust (1)

Reproductive toxicity
Combustible Dust

Label elements

Pictogram:

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Signal Word:
Danger

Hazard Statement:

H360 May form combustible dust concentration in air.
May damage the unborn child.

Precautionary Statements (Prevention):

P280 Wear protective gloves, protective clothing and eye protection or face protection.
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.

Precautionary Statements (Response):

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

Precautionary Statements (Storage):

P405 Store locked up.

Precautionary Statements (Disposal):

P501 Dispose of contents/container in accordance with local regulations.

Hazards not otherwise classified

The product is under certain conditions capable of dust explosion.

3. Composition / Information on Ingredients

According to Regulation 2024 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Sucrose

CAS Number: 57-50-1
Content (W/W): 15.0 - 40.0%
Synonym: .alpha.-D-Glucopyranoside, .beta.-D-fructofuranosyl-

Vitamin A palmitate

CAS Number: 79-81-2
Content (W/W): 10.0 - 30.0%
Synonym: No data available.

starch

CAS Number: 9005-25-8
Content (W/W): 10.0 - 30.0%
Synonym: Starch; Amylum

Isomers of Retinyl palmitate

Content (W/W): 0.5 - 5.0%
Synonym: No data available.

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The actual concentration is withheld as a trade secret.

4. First-Aid Measures

Description of first aid measures

General advice:

First aid personnel should pay attention to their own safety. If the patient is likely to become unconscious, place and transport in stable sideways position (recovery position). Immediately remove contaminated clothing.

If inhaled:

Keep patient calm, remove to fresh air, seek medical attention.

If on skin:

Immediately wash thoroughly with soap and water, seek medical attention.

If in eyes:

Wash affected eyes for at least 15 minutes under running water with eyelids held open.

If swallowed:

Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention.

Most important symptoms and effects, both acute and delayed

Information on: Vitamin A palmitate

Symptoms: Overexposure may cause:, Eye irritation, skin irritation, erythema, nausea, headache, vomiting, dizziness, diarrhea, abdominal cramps

Indication of any immediate medical attention and special treatment needed

Note to physician

Treatment:	Treat according to symptoms (decontamination, vital functions), no known specific antidote.
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5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:

carbon dioxide, foam, dry powder, water spray

Unsuitable extinguishing media for safety reasons:

water jet

Additional information:

Avoid whirling up the material/product because of the danger of dust explosion.

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Special hazards arising from the substance or mixture

Hazards during fire-fighting:

carbon oxides, harmful vapours

The substances/groups of substances mentioned can be released in case of fire. Generation of fumes/fog. Dust explosion hazard.

Advice for fire-fighters

Protective equipment for fire-fighting:

Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

Further information:

Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

Cool endangered containers with water-spray.

Dusty conditions may ignite explosively in the presence of an ignition source causing flash fire.

6. Accidental release measures

Further accidental release measures:

Avoid dispersal of dust in the air (e.g. by clearing dusty surfaces with compressed air). Avoid the formation and build-up of dust - danger of dust explosion. Dust in sufficient concentration can result in an explosive mixture in air. Handle to minimize dusting and eliminate open flame and other sources of ignition.

Personal precautions, protective equipment and emergency procedures

Use personal protective clothing. Information regarding personal protective measures, see section 8.

Ensure adequate ventilation. Avoid dust formation. Do not breathe dust.

Environmental precautions

Do not discharge into drains/surface waters/groundwater.

Methods and material for containment and cleaning up

For small amounts: Contain with dust binding material and dispose of.

For large amounts: Sweep/shovel up. Collect waste in suitable containers, which can be labeled and sealed.

Dispose of absorbed material in accordance with regulations. Avoid raising dust. Cleaning operations should be carried out only while wearing breathing apparatus.

Nonsparking tools should be used.

7. Handling and Storage

Precautions for safe handling

Avoid dust formation. Provide exhaust ventilation. This product may cause irritations; wash your hands after every contact.

Protection against fire and explosion:

Dust in sufficient concentration can result in an explosive mixture in air. Handle to minimize dusting and eliminate open flame and other sources of ignition. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres. Refer to NFPA 660 (2025) Standard for

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Combustible Dust and Particulate Solids. NFPA 660 is a combination of Standards NFPA 61 (Agriculture and Food), NFPA 484 (Metals), NFPA 652 (Fundamentals of Combustible Dusts), NFPA 654 (Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids), NFPA 65 (Sulfur), and NFPA 664 (Woodworking/Processing). Consult NFPA 660 standard for relevant commodity-specific and general safety information.

Conditions for safe storage, including any incompatibilities

Suitable materials for containers: High density polyethylene (HDPE), Low density polyethylene (LDPE)

Further information on storage conditions: Keep container tightly closed and dry; store in a cool place. Protect from air. Protect from the effects of light.

8. Exposure Controls/Personal Protection

Components with occupational exposure limits

Sucrose	ACGIH, US:	TWA value 10 mg/m ³ ;
	OSHA Z1:	PEL 15 mg/m ³ Total dust ;
	OSHA Z1:	PEL 5 mg/m ³ Respirable fraction ;
starch	ACGIH, US:	TWA value 10 mg/m ³ ;
	OSHA Z1:	PEL 5 mg/m ³ Respirable fraction ;
	OSHA Z1:	PEL 15 mg/m ³ Total dust ;
	OSHA Z3:	TWA value 15 mg/m ³ Total dust ;
	OSHA Z3:	TWA value 50 millions of particles per cubic foot of air Total dust ;
	OSHA Z3:	TWA value 5 mg/m ³ Respirable fraction ;
	OSHA Z3:	TWA value 15 millions of particles per cubic foot of air Respirable fraction ;

Advice on system design:

It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen deficient environment. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment). Use only appropriately classified electrical equipment and powered industrial trucks.

Personal protective equipment

Respiratory protection:

Wear a NIOSH-certified (or equivalent) particulate respirator.

Hand protection:

Wear chemical resistant protective gloves.

Eye protection:

Tightly fitting safety goggles (chemical goggles).

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Body protection:

Body protection must be chosen based on level of activity and exposure.

General safety and hygiene measures:

Under no circumstances should the product come into contact with the skin of pregnant women or be inhaled by them. Wearing of closed work clothing is required additionally to the stated personal protection equipment. Handle in accordance with good industrial hygiene and safety practice. Wash soiled clothing immediately. Hands and/or face should be washed before breaks and at the end of the shift.

9. Physical and Chemical Properties

Physical state:	solid
Form:	free flowing fine granules
Odour:	not applicable
Odour threshold:	Not determined due to potential health hazard by inhalation.
Colour:	light yellow
pH value:	5.9 (10 %(m), 20 °C)
melting range:	The substance / product decomposes therefore not determined.
freezing range:	No data available.
Boiling point:	not applicable
Flash point:	not applicable, the product is a solid
Flammability:	not highly flammable (UN Test N.1 (ready combustible solids))
Lower explosion limit:	For solids not relevant for classification and labelling.
Upper explosion limit:	For solids not relevant for classification and labelling.
SADT:	> 75 °C Heat accumulation / Dewar 500 ml (SADT, UN-Test H.4, 28.4.4)
Vapour pressure:	not applicable
Density:	No information is available for the absolute density. Instead the bulk density was determined as a more relevant value.
Bulk density:	approx. 600 kg/m ³
Relative vapour density:	not applicable, The product is a non- volatile solid.
Partitioning coefficient n- octanol/water (log Pow):	not applicable for mixtures
Thermal decomposition:	>= 165 °C (DSC (DIN 51007)) self-accelerating reaction
Viscosity, kinematic:	not applicable, the product is a solid
Solubility in water:	(10 °C) dispersible
Molecular weight:	No data available.
Evaporation rate:	The product is a non-volatile solid.

Particle characteristics

Particle size distribution: typically > 200 µm

(D50, Volumetric Distribution,
ISO 13320-1)

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10. Stability and Reactivity

Reactivity

No hazardous reactions if stored and handled as prescribed/indicated.

Corrosion to metals:

Corrosive effects to metal are not anticipated.

Oxidizing properties:

Based on its structural properties the product is not classified as oxidizing.

Minimum ignition energy:

(VDI 2263, sheet 1, 2.1.1 (May 1990))

The product is capable of dust explosion.

Chemical stability

The product is stable if stored and handled as prescribed/indicated.

Possibility of hazardous reactions

Dust explosion hazard.

Conditions to avoid

Avoid heat. Avoid light. Avoid dust formation. Avoid all sources of ignition: heat, sparks, open flame. See SDS section 7 - Handling and storage.

Incompatible materials

atmospheric moisture, atmospheric oxygen

Hazardous decomposition products

Decomposition products:

Hazardous decomposition products: No hazardous decomposition products if stored and handled as prescribed/indicated.

Thermal decomposition:

≥ 165 °C (DSC (DIN 51007))

self-accelerating reaction

11. Toxicological information

Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

Acute Toxicity/Effects

Acute toxicity

Assessment of acute toxicity: Virtually nontoxic after a single ingestion.

Oral

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Information on: Vitamin A palmitate

Type of value: LD50

Species: rat (male/female)

Value: > 2,000 mg/kg (BASF-Test)

No mortality was observed. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Inhalation

No data available.

Dermal

No data available.

Assessment other acute effects

Assessment of STOT single:

Based on available data, the classification criteria are not met.

Irritation / corrosion

Assessment of irritating effects: Not irritating to the eyes. Skin contact causes slight irritation.

Skin

Information on: Vitamin A palmitate

Species: rabbit

Result: Irritant.

Method: BASF-Test

Species: rabbit

Result: Slightly irritating.

Method: OECD Guideline 404

Eye

Information on: Vitamin A palmitate

Species: rabbit

Result: non-irritant

Method: OECD Guideline 405

Sensitization

Assessment of sensitization: A sensitizing effect on particularly sensitive individuals cannot be excluded.

Information on: Vitamin A palmitate

Assessment of sensitization:

Skin sensitizing effects were not observed in animal studies.

Information on: D,L-alpha-Tocopherol

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*Assessment of sensitization:
Caused skin sensitization in animal studies.*

Aspiration Hazard
No aspiration hazard expected.

Chronic Toxicity/Effects

Repeated dose toxicity
Assessment of repeated dose toxicity: Based on available data, the classification criteria are not met.

Information on: Vitamin A palmitate
Assessment of repeated dose toxicity: Repeated exposure to large quantities may affect certain organs.

Genetic toxicity
Assessment of mutagenicity: Based on the ingredients, there is no suspicion of a mutagenic effect.

Information on: Vitamin A palmitate
Assessment of mutagenicity: In the majority of tests performed (bacteria/microorganisms/cell cultures) a mutagenic effect was not found. A mutagenic effect was also not observed in in-vivo assays. The product has not been fully tested. The statements have been derived in parts from products of a similar structure or composition.

Carcinogenicity
Assessment of carcinogenicity: The whole of the information assessable provides no indication of a carcinogenic effect.

Information on: Vitamin A palmitate
Assessment of carcinogenicity: Results from a number of long-term carcinogenity studies and short-term tests are available. Taking into account all of the information, there is no indication that the substance itself is carcinogenic. Literature data.

Reproductive toxicity
Assessment of reproduction toxicity: Based on available data, the classification criteria are not met.

Teratogenicity
Assessment of teratogenicity: The substance caused malformations/developmental toxicity in laboratory animals.

Information on: Vitamin A palmitate
Assessment of teratogenicity: May cause harm to the unborn child.

Other Information
The product has not been tested. The statements on toxicology have been derived from the properties of the individual components.

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12. Ecological Information

Toxicity

Aquatic toxicity

Assessment of aquatic toxicity:

There is a high probability that the product is not acutely harmful to aquatic organisms.

Aquatic toxicity

Information on: Vitamin A palmitate

Assessment of aquatic toxicity:

There is a high probability that the product is not acutely harmful to aquatic organisms. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

Toxicity to fish

Information on: Vitamin A palmitate

LC50 (96 h) > 10,000 mg/l, Leuciscus idus (DIN 38412 Part 15, static)

The details of the toxic effect relate to the nominal concentration. The product has not been tested.

The statement has been derived from substances/products of a similar structure or composition.

Aquatic invertebrates

Information on: Vitamin A palmitate

EC50 (48 h) > 100 mg/l, Daphnia magna (Screening test, static)

The details of the toxic effect relate to the nominal concentration. The product has not been tested.

The statement has been derived from substances/products of a similar structure or composition.

Aquatic plants

Information on: Vitamin A palmitate

EC50 (72 h) 152.94 mg/l (growth rate), Scenedesmus subspicatus (DIN 38412 Part 9, static)

The product has low solubility in the test medium. An aqueous solution prepared with solubilizers has been tested.

Microorganisms/Effect on activated sludge

Toxicity to microorganisms

Information on: Vitamin A palmitate

DIN EN ISO 8192-OECD 209-88/302/EEC, P. C aerobic activated sludge, domestic/EC20 (30 min): > 1,000 mg/l

Persistence and degradability

Assessment biodegradation and elimination (H2O)

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Product is not expected to be readily biodegradable.

Assessment biodegradation and elimination (H₂O)

Information on: Vitamin A palmitate

Not readily biodegradable (by OECD criteria). Moderately/partially biodegradable.

Elimination information

Information on: Vitamin A palmitate

40 - 50 % BOD of the ThOD (28 d) (OECD 301F; ISO 9408; 92/69/EWG, C.4-D) (aerobic, activated sludge, domestic)

Bioaccumulative potential

Assessment bioaccumulation potential

No data available.

Assessment bioaccumulation potential

Information on: Vitamin A palmitate

The product will not be readily bioavailable due to its consistency and insolubility in water. No significant accumulation in organisms is expected as a result of the distribution coefficient of n-octanol/water (log Pow).

Mobility in soil

Assessment transport between environmental compartments

No data available.

Information on: Vitamin A palmitate

The substance will not evaporate into the atmosphere from the water surface. Adsorption to solid soil phase is expected.

Additional information

Other ecotoxicological advice:

No data available.

13. Disposal considerations

Waste disposal of substance:

Observe national and local legal requirements.

Container disposal:

Dispose of in accordance with national, state and local regulations.

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14. Transport Information

Land transport
USDOT

Not classified as a dangerous good under transport regulations

Sea transport
IMDG

Not classified as a dangerous good under transport regulations

Air transport
IATA/ICAO

Not classified as a dangerous good under transport regulations

15. Regulatory Information

Federal Regulations

Registration status:

Food TSCA, US released / exempt

Chemical TSCA, US blocked / not listed

Chemical TSCA, US

Contains non-registered, non-listed substance.
Individual registration may be required.

EPCRA 311/312 (Hazard categories): Refer to SDS section 2 for GHS hazard classes applicable for this product.

<u>CERCLA RQ</u>	<u>CAS Number</u>	<u>Chemical name</u>
5000 LBS	67-56-1	Methanol
5000 LBS	67-56-1	Methanol
100 LBS	142-82-5	heptane
100 LBS	142-82-5	heptane

State regulations

<u>State RTK</u>	<u>CAS Number</u>	<u>Chemical name</u>
PA	57-50-1	Sucrose
	9005-25-8	starch

Safe Drinking Water & Toxic Enforcement Act, CA Prop. 65:

BASF Risk Assessment, CA Prop. 65:

Based on an evaluation of the product's composition and the use(s) described in this section below, this product does not require a California Proposition 65 Warning:

Human nutrition

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NFPA Hazard codes:

Health: 1 Fire: 1 Reactivity: 0 Special:

HMIS III rating

Health: 1 $\frac{1}{2}$ Flammability: 1 Physical hazard: 0

Assessment of the hazard classes according to UN GHS criteria (most recent version):

Skin Corr./Irrit.	3	Skin corrosion/irritation
Repr.	1B (unborn child)	Reproductive toxicity

16. Other Information

SDS Prepared by:

BASF NA Product Regulations
SDS Prepared on: 2025/08/18

We support worldwide Responsible Care® initiatives. We value the health and safety of our employees, customers, suppliers and neighbors, and the protection of the environment. Our commitment to Responsible Care is integral to conducting our business and operating our facilities in a safe and environmentally responsible fashion, supporting our customers and suppliers in ensuring the safe and environmentally sound handling of our products, and minimizing the impact of our operations on society and the environment during production, storage, transport, use and disposal of our products.

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Date / Previous version: 2023/08/11

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