

Safety data sheet

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BASF Safety data sheet

Date / Revised: 03.02.2025

Product: **Dry Vitamin A-Palmitate 250 Food Grade**

Version: 5.0

(30041045/SDS_GEN_SG/EN)

Date of print: 09.10.2025

1. Substance/preparation and manufacturer/supplier identification

Product name:**Dry Vitamin A-Palmitate 250 Food Grade**

Use: Vitamin

Manufacturer/supplier:

BASF South East Asia Pte Ltd.

128 Beach Road #18-01

Guoco Midtown, 189773, Singapore

Telephone: +65 8322 4420

Telefax number: +65 6 334-0330

E-mail address: benny.zou@basf.com

Emergency information:

Singapore Emergency Toll-Free Number:

Telephone: 1800-723-1361

International emergency number:

Telephone: +49 180 2273-112

2. Hazard identification

Classification of the substance and mixture:

Skin irritation: Cat.3

Reproductive toxicity: Cat.1B (unborn child)

Label elements and precautionary statement:

Pictogram:



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Signal Word:
Danger

Hazard Statement:
H316 Causes mild skin irritation.
H360 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.
P332 + P313 If skin irritation occurs: Get medical attention.

Precautionary Statements (Storage):
P405 Store locked up.

Precautionary Statements (Disposal):
P501 Dispose of contents and container to hazardous or special waste collection point.

Other hazards which do not result in classification:
The product is under certain conditions capable of dust explosion.
May form explosible dust-air mixture if dispersed

May produce an allergic reaction. Contains:
D,L-alpha-tocopherol

3. Composition/information on ingredients

Chemical nature

Substance nature: mixture

Preparation based on:
retinyl palmitate

in a matrix of: carbohydrates
, gum arabic, starch, D,L-alpha-tocopherol

Hazardous ingredients

retinyl palmitate

Content (W/W): $\geq 10\%$ - $< 20\%$	Skin Irrit.: Cat. 3
CAS Number: 79-81-2	Repr.: Cat. 1B (unborn child)
	Aquatic Chronic: Cat. 4

D,L-alpha-tocopherol

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Content (W/W): > 0 % - < 1 %
CAS Number: 10191-41-0

Skin Sens.: Cat. 1B

4. 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.

On skin contact:

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

On contact with eyes:

Wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

On ingestion:

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

Note to physician:

Symptoms: Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11., (Further) symptoms and / or effects are not known so far

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

5. Fire-Fighting Measures

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.

Specific hazards:

carbon oxides, harmful vapours

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

Special protective equipment:

Wear a self-contained breathing apparatus.

Further information:

Dispose of fire debris and contaminated extinguishing water in accordance with official regulations. Cool endangered containers with water-spray.

6. Accidental Release Measures

Personal precautions:

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 for cleaning up or taking 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.

Additional information: Dust can form an explosive mixture with air.

7. Handling and Storage

Handling

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

Protection against fire and explosion:

The product is capable of dust explosion. Avoid dust formation. Prevent electrostatic charge - sources of ignition should be kept well clear - fire extinguishers should be kept handy. Use explosion-proof apparatus and fittings.

Storage

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 and personal protection

Components with occupational exposure limits

sucrose, 57-50-1;

TWA value 10 mg/m³ (ACGIHTLV)

TWA value 10 mg/m³ (OEL (SG))

starch, 9005-25-8;

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TWA value 10 mg/m³ (ACGIHTLV)TWA value 10 mg/m³ (OEL (SG))

Personal protective equipment

Respiratory protection:

Suitable respiratory protection for lower concentrations or short-term effect: Particle filter with high efficiency for solid and liquid particles (e.g. EN 143 or 149, Type P3 or FFP3).

Hand protection:

Suitable chemical resistant safety gloves (EN ISO 374-1) also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN ISO 374-1): E.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), butyl rubber (0.7 mm) etc. Supplementary note: The specifications are based on tests, literature data and information of glove manufacturers or are derived from similar substances by analogy. Due to many conditions (e.g. temperature) it must be considered, that the practical usage of a chemical-protective glove in practice may be much shorter than the permeation time determined through testing. Manufacturer's directions for use should be observed because of great diversity of types.

Eye protection:

Safety glasses with side-shields (frame goggles) (e.g. EN 166)

Body protection:

Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).

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. No eating, drinking, smoking or tobacco use at the place of work. Hands and/or face should be washed before breaks and at the end of the shift. Store work clothing separately.

9. Physical and Chemical Properties

Form:	free flowing fine granules
Colour:	light yellow
Odour:	not applicable
Odour threshold:	Not determined due to potential health hazard by inhalation.

pH value:	5.9 (10 %(m), 20 °C)
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melting range:	The substance / product decomposes therefore not determined.
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Boiling point:	not applicable
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Flash point:	not applicable, the product is a solid	
Evaporation rate:	The product is a non-volatile solid.	
Flammability (solid/gas):	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.	
Ignition temperature:	No data available.	
Thermal decomposition:	$\geq 165\text{ }^{\circ}\text{C}$ self-accelerating reaction	(DSC (DIN 51007))
Self heating ability:	It is not a substance capable of spontaneous heating according to UN transport regulations class 4.2.	(UN Test N.4 (self heating substances))
SADT:	$> 75\text{ }^{\circ}\text{C}$ Heat accumulation / Dewar 500 ml (SADT, UN-Test H.4, 28.4.4)	
Minimum ignition energy:	The product is capable of dust explosion.	(VDI 2263, sheet 1, 2.1.1 (May 1990))
Explosion hazard:	Product is not explosive, however a dust explosion could result from an air / dust mixture.	
Fire promoting properties:	Based on its structural properties the product is not classified as oxidizing.	
Vapour pressure:	not applicable	
Density:	No information is available for the absolute density. Instead the bulk density was determined as a more relevant value.	
Relative density:	No data available.	
Bulk density:	approx. 600 kg/m ³	
Relative vapour density (air):	not applicable, The product is a non-volatile solid.	
Solubility in water:	dispersible (10 °C)	
Partitioning coefficient n-octanol/water (log Pow):	not applicable for mixtures	

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Viscosity, kinematic:
not applicable, the product is a solid

Particle characteristics

Particle size distribution: No data available. -

Specific Surface Area:
No data available.

Particle Shape:
No data available.

Dustiness:
No data available.

10. Stability and Reactivity

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.

Thermal decomposition: $\geq 165\text{ °C}$ (DSC (DIN 51007))
self-accelerating reaction

Substances to avoid:
atmospheric moisture, atmospheric oxygen

Corrosion to metals: Corrosive effects to metal are not anticipated.

Hazardous reactions:
Dust explosion hazard.

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

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

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

11. Toxicological Information

Routes of exposure

Acute oral toxicity

Experimental/calculated data:
(oral): No data available.

Acute inhalation toxicity

(by inhalation): No data available.

Acute dermal toxicity

(dermal):No data available.

Assessment of acute toxicity

Virtually nontoxic after a single ingestion.

Symptoms

Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11.
(Further) symptoms and / or effects are not known so far

Irritation

Assessment of irritating effects:

Not irritating to the eyes. Skin contact causes slight irritation.

Experimental/calculated data:

Skin corrosion/irritation:No data available.

Serious eye damage/irritation:No data available.

Information on: retinyl palmitate

Experimental/calculated data:

Skin corrosion/irritation rabbit: Irritant. (BASF-Test)

Skin corrosion/irritation rabbit: Slightly irritating. (OECD Guideline 404)

Information on: retinyl palmitate

Experimental/calculated data:

Serious eye damage/irritation rabbit: non-irritant (OECD Guideline 405)

Respiratory/Skin sensitization

Assessment of sensitization:

A sensitizing effect on particularly sensitive individuals cannot be excluded.

Experimental/calculated data:

No data available.

Information on: retinyl palmitate

Assessment of sensitization:

Skin sensitizing effects were not observed in animal studies.

Information on: D,L-alpha-tocopherol

Assessment of sensitization:

Caused skin sensitization in animal studies.

Germ cell mutagenicity

Assessment of mutagenicity:

Based on the ingredients, there is no suspicion of a mutagenic effect.

Information on: retinyl 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.

Experimental/calculated data:

No data available.

Information on: retinyl palmitate

Assessment of carcinogenicity:

Results from a number of long-term carcinogenicity 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.

Experimental/calculated data:

No data available.

Developmental toxicity

Assessment of teratogenicity:

The substance caused malformations/developmental toxicity in laboratory animals.

Information on: retinyl palmitate

Assessment of teratogenicity:

May cause harm to the unborn child.

Specific target organ toxicity (single exposure)

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

Repeated dose toxicity and Specific target organ toxicity (repeated exposure)

Assessment of repeated dose toxicity:

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

Experimental/calculated data:

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

Aspiration hazard

No aspiration hazard expected.

Other relevant toxicity information

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

12. Ecological Information

Ecotoxicity

Assessment of aquatic toxicity:
There is a high probability that the product is not acutely harmful to aquatic organisms.

Toxicity to fish:
No data available.

Aquatic invertebrates:
No data available.

Aquatic plants:
No data available.

Microorganisms/Effect on activated sludge:
No data available.

Chronic toxicity to fish:
No data available.

Chronic toxicity to aquatic invertebrates:
No data available.

Information on: retinyl 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.

Information on: retinyl palmitate
Toxicity to fish:
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.

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Information on: retinyl palmitate

Aquatic invertebrates:

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.

Information on: retinyl palmitate

Aquatic plants:

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.

Information on: retinyl palmitate

Microorganisms/Effect on activated sludge:

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

Mobility

Assessment transport between environmental compartments:

No data available.

Information on: retinyl palmitate

Assessment transport between environmental compartments:

The substance will not evaporate into the atmosphere from the water surface.

Adsorption to solid soil phase is expected.

Persistence and degradability

Assessment biodegradation and elimination (H₂O):

Product is not expected to be readily biodegradable.

Information on: retinyl palmitate

Information on: retinyl palmitate

Elimination information:

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

Bioaccumulation potential

Assessment bioaccumulation potential:

No data available.

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Assessment bioaccumulation potential:

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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).

13. Disposal Considerations

Observe national and local legal requirements.

14. Transport Information

Domestic transport:

	Not classified as a dangerous good under transport regulations
UN number or ID number	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

Sea transport

IMDG

	Not classified as a dangerous good under transport regulations
UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
	Marine pollutant: no
Special precautions for user	None known

Air transport

IATA/ICAO

	Not classified as a dangerous good under transport regulations
UN number or ID number	Not applicable
Proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

Maritime transport in bulk according to IMO instruments

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Maritime transport in bulk is not intended.

15. Regulatory Information

Other regulations

If other regulatory information applies that is not already provided elsewhere in this safety data sheet, then it is described in this subsection.

16. Other Information

Any other intended applications should be discussed with the manufacturer. Corresponding occupational protection measurements must be followed.

Vertical lines in the left hand margin indicate an amendment from the previous version.

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. This safety data sheet is neither a Certificate of Analysis (CoA) nor technical data sheet and shall not be mistaken for a specification agreement. Identified uses in this safety data sheet do neither represent an agreement on the corresponding contractual quality of the substance/mixture nor a contractually designated use. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.