

Safety data sheet

Page: 1/13

BASF Safety data sheet according to UN GHS 4th rev.

Date / Revised: 22.03.2023

Version: 2.0

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

(ID no. 30041045/SDS_GEN_00/EN)

Date of print 15.10.2025

1. Identification

Product identifier

Dry Vitamin A-Palmitate 250 Food Grade

Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses: Vitamin

Details of the supplier of the safety data sheet

Company:

BASF SE

67056 Ludwigshafen

GERMANY

Operating Division Nutrition and Health

Telephone: +49 621 60-48434

E-mail address: EN-global-safety-data@basf.com

Emergency telephone number

International emergency number:

Telephone: +49 180 2273-112

2. Hazards Identification

Classification of the substance or mixture

According to UN GHS criteria

Skin Corr./Irrit. 3

Repr. 1B (unborn child)

For the classifications not written out in full in this section the full text can be found in section 16.

Safety data sheet according to UN GHS 4th rev.

Date / Revised: 22.03.2023

Version: 2.0

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

(ID no. 30041045/SDS_GEN_00/EN)

Date of print 15.10.2025

Label elements

Globally Harmonized System (GHS)

Pictogram:



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.
------	---

Labeling of special preparations (GHS):

May produce an allergic reaction. Contains: 3,4-Dihydro-2,5,7,8-tetramethyl-2-(4,8,12-trimethyltridecyl)-2H-benzopyran-6-ol

Other hazards

According to UN GHS criteria

The product is under certain conditions capable of dust explosion.

3. Composition/Information on Ingredients

Substances

Not applicable

Safety data sheet according to UN GHS 4th rev.

Date / Revised: 22.03.2023

Version: 2.0

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

(ID no. 30041045/SDS_GEN_00/EN)

Date of print 15.10.2025

Mixtures

Chemical nature

Preparation based on: Retinyl palmitate

in a matrix of: carbohydrates, Gum arabic, Starch, 3,4-Dihydro-2,5,7,8-tetramethyl-2-(4,8,12-trimethyltridecyl)-2H-benzopyran-6-ol

Hazardous ingredients (GHS)

According to UN GHS criteria

Retinyl palmitate

Content (W/W): $\geq 10\%$ - $< 20\%$	Skin Corr./Irrit. 3
CAS Number: 79-81-2	Repr. 1B (unborn child)
EC-Number: 201-228-5	Aquatic Chronic 4
	H316, H360, H413

3,4-Dihydro-2,5,7,8-tetramethyl-2-(4,8,12-trimethyltridecyl)-2H-benzopyran-6-ol

Content (W/W): $> 0\%$ - $< 1\%$	Skin Sens. 1B
CAS Number: 10191-41-0	H317
EC-Number: 233-466-0	

For the classifications not written out in full in this section the full text can be found in section 16.

4. First-Aid Measures

Description of first aid measures

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.

Most important symptoms and effects, both acute and delayed

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

Safety data sheet according to UN GHS 4th rev.

Date / Revised: 22.03.2023

Version: 2.0

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

(ID no. 30041045/SDS_GEN_00/EN)

Date of print 15.10.2025

Indication of any immediate medical attention and special treatment needed

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

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.

Special hazards arising from the substance or mixture

carbon oxides, harmful vapours

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

Advice for fire-fighters

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

Dust can form an explosive mixture with air.

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.

7. Handling and Storage**Precautions for safe handling**

Safety data sheet according to UN GHS 4th rev.

Date / Revised: 22.03.2023

Version: 2.0

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

(ID no. 30041045/SDS_GEN_00/EN)

Date of print 15.10.2025

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.

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.

Specific end use(s)

For the relevant identified use(s) listed in Section 1 the advice mentioned in this section 7 is to be observed.

8. Exposure Controls/Personal Protection

Control parameters

Components with occupational exposure limits

57-50-1: Sucrose

9005-25-8: Starch

Exposure controls

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).

Safety data sheet according to UN GHS 4th rev.

Date / Revised: 22.03.2023

Version: 2.0

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

(ID no. 30041045/SDS_GEN_00/EN)

Date of print 15.10.2025

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

Information on basic 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)	
melting range:	The substance / product decomposes therefore not determined.	
Boiling point:	not applicable	
Flash point:	not applicable, the product is a solid	
Evaporation rate:	The product is a non-volatile 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.	
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 vapour density (air):	not applicable, The product is a non-volatile solid.	
Solubility in water:	dispersible (10 °C)	
Partitioning coefficient n-octanol/water (log Kow):	not applicable for mixtures	
Thermal decomposition:	>= 165 °C (DSC (DIN 51007)) self-accelerating reaction	

Safety data sheet according to UN GHS 4th rev.

Date / Revised: 22.03.2023

Version: 2.0

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

(ID no. 30041045/SDS_GEN_00/EN)

Date of print 15.10.2025

Viscosity, kinematic:

not applicable, the product is a solid

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.

Other information

Burning rate:

0,44 mm/s, 200 mm, 450 s

(UN Test N.1 (ready combustible solids))

The material doesn't meet the criteria specified in paragraph 33.2.4.4 of UN manual of tests and criteria.

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 °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)

Bulk density:

approx. 600 kg/m³**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.

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

Substances to avoid:

atmospheric moisture, atmospheric oxygen

Hazardous decomposition products

Hazardous decomposition products:

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

Safety data sheet according to UN GHS 4th rev.
Date / Revised: 22.03.2023
Product: **Dry Vitamin A-Palmitate 250 Food Grade**

Version: 2.0

(ID no. 30041045/SDS_GEN_00/EN)

Date of print 15.10.2025

11. Toxicological Information

Information on toxicological effects

Acute toxicity

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

Irritation

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

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.

Information on: Retinyl palmitate
Assessment of sensitization:
Skin sensitizing effects were not observed in animal studies.

Information on: 3,4-Dihydro-2,5,7,8-tetramethyl-2-(4,8,12-trimethyltridecyl)-2H-benzopyran-6-ol
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.

Safety data sheet according to UN GHS 4th rev.

Date / Revised: 22.03.2023

Version: 2.0

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

(ID no. 30041045/SDS_GEN_00/EN)

Date of print 15.10.2025

Carcinogenicity

Assessment of carcinogenicity:

The whole of the information assessable provides no indication of a carcinogenic effect.

*Information on: Retinyl 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.

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)

Assessment of STOT single:

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.

*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.

Safety data sheet according to UN GHS 4th rev.

Date / Revised: 22.03.2023

Version: 2.0

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

(ID no. 30041045/SDS_GEN_00/EN)

Date of print 15.10.2025

12. Ecological Information

Toxicity

Assessment of aquatic toxicity:

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

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.

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)

Persistence and degradability

Assessment biodegradation and elimination (H₂O):

Product is not expected to be readily biodegradable.

Information on: Retinyl palmitate

Assessment biodegradation and elimination (H₂O):

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

Information on: Retinyl palmitate

Elimination information:

Safety data sheet according to UN GHS 4th rev.

Date / Revised: 22.03.2023

Version: 2.0

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

(ID no. 30041045/SDS_GEN_00/EN)

Date of print 15.10.2025

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

Bioaccumulative potential

Assessment bioaccumulation potential:

No data available.

*Information on: Retinyl palmitate**Assessment bioaccumulation potential:*

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:

Volatility: No data available.

*Information on: Retinyl palmitate**Assessment transport between environmental compartments:**Volatility: The substance will not evaporate into the atmosphere from the water surface.**Adsorption in soil: Adsorption to solid soil phase is expected.*

Other adverse effects

The product does not contain substances that are listed in Regulation (EC) 1005/2009 on substances that deplete the ozone layer.

13. Disposal Considerations

Waste treatment methods

Observe national and local legal requirements.

14. Transport Information

Land transport

ADR

	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	None known

Safety data sheet according to UN GHS 4th rev.

Date / Revised: 22.03.2023

Version: 2.0

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

(ID no. 30041045/SDS_GEN_00/EN)

Date of print 15.10.2025

user

RID

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

Inland waterway transport

ADN

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

Transport in inland waterway vessel

Not evaluated

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

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

UN proper shipping name: Not applicable

Transport hazard class(es): Not applicable

Packing group: Not applicable

Environmental hazards: Not applicable

Safety data sheet according to UN GHS 4th rev.

Date / Revised: 22.03.2023

Version: 2.0

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

(ID no. 30041045/SDS_GEN_00/EN)

Date of print 15.10.2025

Special precautions for user	None known
------------------------------	------------

Maritime transport in bulk according to IMO instruments

Maritime transport in bulk is not intended.

15. Regulatory Information**Safety, health and environmental regulations/legislation specific for the substance or mixture**

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.

Full text of classifications, hazard symbols and hazard statements, if mentioned in section 2 or 3:

Skin Corr./Irrit.	Skin corrosion/irritation
Repr.	Reproductive toxicity
Aquatic Chronic	Hazardous to the aquatic environment - chronic
Skin Sens.	Skin sensitization
H316	Causes mild skin irritation.
H360	May damage the unborn child.
H413	May cause long lasting harmful effects to aquatic life.
H317	May cause an allergic skin reaction.

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.

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