

Safety data sheet

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

Date / Revised: 19.12.2022 Version: 4.0

Product: Vitamin A-Palmitate 1.7 Mio IU/G stabilized with BHT

(ID no. 30041041/SDS_GEN_00/EN)

Date of print 22.10.2025

1. Identification

Product identifier

Vitamin A-Palmitate 1.7 Mio IU/G stabilized with BHT

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

Relevant identified uses: feed additive(s), food additive(s), cosmetic ingredient

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

Repr. 1B (unborn child) Skin Corr./Irrit. 3 Aquatic Acute 3

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Aquatic Chronic 3

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

Label elements

Globally Harmonized System (GHS)

Pictogram:



Signal Word:

Danger

Hazard Statement:

H316 Causes mild skin irritation. H360 May damage the unborn child.

H412 Harmful to aquatic life with long lasting effects.

H402 Harmful to aquatic life.

Precautionary Statements (Prevention):

P280 Wear protective gloves, protective clothing and eye protection or face

protection.

P201 Obtain special instructions before use. P273 Avoid release to the environment.

P202 Do not handle until all safety precautions have been read and

understood.

Precautionary Statements (Response):

P308 + P311 IF exposed or concerned: Call a POISON CENTER or physician.

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

According to UN GHS criteria

When finely distributed on porose material, self-ignition is possible. High risk of slipping due to leakage/spillage of product.

3. Composition/Information on Ingredients

Substances

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Not applicable

Mixtures

Chemical nature

Retinyl palmitate

stabilized with: 2,6-di-tert-Butyl-p-cresol

<u>Hazardous ingredients (GHS)</u> According to UN GHS criteria

Retinyl palmitate

Content (W/W): >= 75 % - <= 100 Skin Corr./Irrit. 3

% Repr. 1B (unborn child)
CAS Number: 79-81-2 Aquatic Chronic 4

EC-Number: 201-228-5 H316, H360, H413

2,6-di-tert-Butyl-p-cresol

Content (W/W): >= 1 % - < 2,5 % Aquatic Acute 1 CAS Number: 128-37-0 Aquatic Chronic 1 EC-Number: 204-881-4 M-factor chronic: 1 H400, H410

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

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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

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:

water spray, foam, dry powder, carbon dioxide

Unsuitable extinguishing media for safety reasons: water jet

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.

Advice for fire-fighters

Special protective equipment:

Wear self-contained breathing apparatus and chemical-protective clothing.

Further information:

In case of combustion evolution of toxic gases/vapours possible. Cool endangered containers with water-spray. Collect contaminated extinguishing water separately, do not allow to reach sewage or effluent systems. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations. Do not spray water directly on fire, product will float and could be reignited on surface of water.

6. Accidental Release Measures

High risk of slipping due to leakage/spillage of product. Soiled textiles/cleaning rags made of natural fibres (e.g. of pure wool or of pure cotton) are capable of ignition and should not be used and/or must be desposed of in a safe manner.

Personal precautions, protective equipment and emergency procedures

Use personal protective clothing. Information regarding personal protective measures, see section 8. Ensure adequate ventilation. Do not breathe vapour/spray. Avoid contact with the skin, eyes and clothing.

Environmental precautions

Do not discharge into drains/surface waters/groundwater. Inform authorities in the event of product spillage to water courses or sewage systems.

Methods and material for containment and cleaning up

For small amounts: Pick up with suitable absorbent material. Do not use saw-dust or other combustible substances as an absorbant during cleanup.

For large amounts: Dike spillage. Pump off product.

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Dispose of absorbed material in accordance with regulations. Mop up spills with non-flammable adsorbents (e.g. vermiculite, spill mats). Soiled textiles / cleaning rags / adsorbents and Silica are capable of self ignition and should be wetted with water and must be disposed of in a safe manner.

7. Handling and Storage

Precautions for safe handling

Avoid aerosol formation. Ensure that there is no crystallized product in the container before use. Processing machines must be fitted with local exhaust ventilation. Wear suitable protective clothing and eye/face protection. Avoid contact with the skin, eyes and clothing. Keep container tightly sealed.

Protection against fire and explosion:

Risk of self-ignition when a large surface area is produced due to fine dispersion. Soiled textiles / cleaning rags / adsorbents and Silica are capable of self ignition and should be wetted with water and must be disposed of in a safe manner. Take precautionary measures against static discharges. Avoid all sources of ignition: heat, sparks, open flame.

Conditions for safe storage, including any incompatibilities

Segregate from oxidants.

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. Keep under nitrogen.

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

128-37-0: 2,6-di-tert-Butyl-p-cresol

Exposure controls

Personal protective equipment

Respiratory protection:

Respiratory protection in case of vapour/aerosol release. 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.

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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

Females in early pregnancy must never be exposed to the substance. Under no circumstances should the product come into contact with the skin of pregnant women or be inhaled by them. Handle in accordance with good industrial hygiene and safety practice. Wearing of closed work clothing is required additionally to the stated personal protection equipment. Avoid contact with skin. 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: oil, partially crystallized

Colour: yellowish
Odour: not applicable

Odour threshold:

Not determined due to potential

health hazard by inhalation.

pH value:

substance/mixture is non-soluble (in

water)

Melting point: approx. 26 °C

Boiling point:

The substance / product decomposes therefore not

determined.

Flash point: 194 °C (ISO 2719, closed cup)

Evaporation rate:

negligible

Flammability: hardly combustible (derived from flash point)

Lower explosion limit:

For liquids not relevant for classification and labelling., The

lower explosion point may be 5 - 15

°C below the flash point.

Upper explosion limit:

For liquids not relevant for

classification and labelling.

Ignition temperature: 261 °C (DIN EN 14522)

Vapour pressure:

(20 °C) negligible

Density: 921,1 kg/m3 (pyknometer)

(20 °C)

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Relative density: 0,9211 (pyknometer)

(20 °C)

Relative vapour density (air):> 1 (estimated)

(20 °C)

Heavier than air.

Solubility in water: insoluble

Solubility (qualitative) solvent(s): organic solvents

soluble

Partitioning coefficient n-octanol/water (log Kow):

not applicable for mixtures

Thermal decomposition: >= 170 °C (DSC (DIN 51007))

self-accelerating reaction

Viscosity, dynamic: 44 mPa.s

(60 °C)

Viscosity, kinematic:

No data available.

Explosion hazard: Based on the chemical structure

there is no indication of explosive

properties.

Fire promoting properties: Based on its structural properties

the product is not classified as

oxidizing.

Other information

Self heating ability: not applicable, the product is a liquid

SADT: Not a substance liable to self-decomposition according to UN transport

regulations, class 4.1.

pKA:

The substance does not dissociate.

Surface tension:

Study technically not feasible.

Grain size distribution: The substance / product is marketed or used in a non solid or

granular form.

10. Stability and Reactivity

Reactivity

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

Corrosion to metals: No corrosive effect on metal.

Formation of Remarks: Forms no flammable gases in the

flammable gases: presence of water.

Chemical stability

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

Possibility of hazardous reactions

Self-ignition is possible when finely distributed on flammable surfaces in the presence of air.

Conditions to avoid

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Temperature: > 60 °C

Disregard of the conditions mentioned may result in undesirable decomposition reactions. Avoid light. See SDS section 7 - Handling and storage.

Incompatible materials

Substances to avoid: oxidizing agents

Hazardous decomposition products

Hazardous decomposition products:

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

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. May cause slight irritation to the skin.

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:

Skin sensitizing effects were not observed in animal studies.

Information on: Retinyl palmitate Experimental/calculated data:

Guinea pig maximization test guinea pig: Non-sensitizing. (OECD Guideline 406)

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Germ cell mutagenicity

Assessment of mutagenicity:

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

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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:

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

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.

illerature data.

Reproductive toxicity

Assessment of reproduction toxicity:

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

Information on: Retinyl palmitate
Assessment of reproduction toxicity:

No reliable data are available concerning reproduction toxicity.

Developmental toxicity

Assessment of teratogenicity:

May cause harm to the unborn child.

Experimental/calculated data:

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.

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Aspiration hazard

No data available.

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

Toxicity

Assessment of aquatic toxicity:

Harmful to aquatic life with long lasting effects.

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Information on: 2,6-di-tert-Butyl-p-cresol

Toxicity to fish:

LCO(96 h) >= 0,57 mg/l, Brachydanio rerio (OECD 203; ISO 7346; 84/449/EEC, C.1, semistatic) The statement of the toxic effect relates to the analytically determined concentration. Limit concentration test only (LIMIT test).

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: 2,6-di-tert-Butyl-p-cresol

Aquatic invertebrates:

EC0 (48 h) 0,48 mg/l, Daphnia magna (OECD Guideline 202, part 1, static)

The statement of the toxic effect relates to the analytically determined concentration.

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: 2,6-di-tert-Butyl-p-cresol

Aquatic plants:

EC50 (72 h) > 0,40 mg/l (growth rate), Scenedesmus subspicatus (Guideline 92/69/EEC, C.3, static) The statement of the toxic effect relates to the analytically determined concentration.

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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: 2,6-di-tert-Butyl-p-cresol

Microorganisms/Effect on activated sludge:

EC0 (3 h) 1.000 mg/l, activated sludge (DIN EN ISO 8192-OECD 209-88/302/EEC,P. C, aerobic)

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)

Information on: 2,6-di-tert-Butyl-p-cresol

Chronic toxicity to aquatic invertebrates:

No observed effect concentration (21 d) 0,316 mg/l, Daphnia magna (OECD Guideline 202, part 2,

semistatic)

The details of the toxic effect relate to the nominal concentration.

Information on: Retinyl palmitate

Chronic toxicity to aquatic invertebrates:

Study scientifically not justified.

Persistence and degradability

Assessment biodegradation and elimination (H2O):

Not readily biodegradable (by OECD criteria).

Information on: 2,6-di-tert-Butyl-p-cresol

Elimination information:

4,5 % BOD of the ThOD (28 d) (OECD 301C; ISO 9408; 92/69/EEC, C.4-F) (aerobic, activated sludge)

Information on: Retinyl palmitate

Elimination information:

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:

The product contains components with potential for bioaccumulation

Information on: 2,6-di-tert-Butyl-p-cresol

Bioaccumulation potential:

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Bioconcentration factor: 330 - 1.800 (28 d), Cyprinus carpio (OECD Guideline 305 C)

Bioconcentration factor: 230 - 2.500 (56 d), Cyprinus carpio (OECD Guideline 305 C)

Information on: Retinyl palmitate Bioaccumulation potential:

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

Adsorption in soil: Adsorption to solid soil phase is expected.

Information on: 2,6-di-tert-Butyl-p-cresol

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.

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.

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Other adverse effects

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

Additional information

Other ecotoxicological advice:

The product has not been tested. The statement has been derived from the properties of the individual components.

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

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UN proper shipping name:
Transport hazard class(es):
Packing group:
Environmental hazards:
Special precautions for

Not applicable
Not applicable
Not applicable
Not applicable
Not applicable

user

RID

Not classified as a dangerous good under transport regulations

UN number or ID number:
UN proper shipping name:
Transport hazard class(es):
Packing group:
Environmental hazards:
Special precautions for

Not applicable
Not applicable
Not applicable
Not applicable
Not applicable
Not applicable

user

Inland waterway transport

ADN

Not classified as a dangerous good under transport regulations

UN number or ID number:
UN proper shipping name:
Transport hazard class(es):
Packing group:
Environmental hazards:
Special precautions for

Not applicable
Not applicable
Not applicable
Not applicable
Not applicable
Not applicable

user:

Transport in inland waterway vessel

Not evaluated

Sea transport

IMDG

Not classified as a dangerous good under transport regulations

UN number or ID number:
UN proper shipping name:
Transport hazard class(es):
Packing group:
Environmental hazards:
Special precautions for

Not applicable
Not applicable
Not applicable
Not applicable
Not applicable
Not applicable

user

Air transport

IATA/ICAO

Not classified as a dangerous good under transport regulations

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UN number or ID number
UN proper shipping name:
Transport hazard class(es):
Packing group:
Environmental hazards:
Special precautions for

Not applicable

user

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:

Repr. Reproductive toxicity
Skin Corr./Irrit. Skin corrosion/irritation

Aquatic Acute Hazardous to the aquatic environment - acute
Aquatic Chronic Hazardous to the aquatic environment - chronic

H316 Causes mild skin irritation. H360 May damage the unborn child.

H413 May cause long lasting harmful effects to aquatic life.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

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.