

Safety Data Sheet

Vitamin A-Palmitate 1.6 Mio IU/G Feed

Revision date : 2025/08/07

Version: 5.0

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(30041042/SDS_GEN_CA/EN)

1. Identification

Product identifier used on the label

Vitamin A-Palmitate 1.6 Mio IU/G Feed

Recommended use of the chemical and restriction on use

Recommended use*: feed additive(s)

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 Canada Inc.
5025 Creekbank Road
Building A, Floor 2
Mississauga, ON, L4W 0B6, CANADA

Telephone: +1 289 360-1300

Emergency telephone number

24 Hour Emergency Response Information

CHEMTREC: 1-800-424-9300

BASF HOTLINE: (800) 454-COPE (2673)

Other means of identification

Synonyms:

Preparation based on: Retinyl palmitate dissolved in Sunflower oil
stabilized with : 2,6-di-tert-Butyl-p-cresol

2. Hazards Identification

According to Hazardous Products Regulations (HPR) (SOR/2022-272)

Classification of the product

| | | |
|-----------------|-------------------|--|
| Repr. | 1B (unborn child) | Reproductive toxicity |
| Aquatic Acute | 3 | Hazardous to the aquatic environment - acute |
| Aquatic Chronic | 3 | Hazardous to the aquatic environment - chronic |

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Label elements

Pictogram:



Signal Word:
Danger

Hazard Statement:

| | |
|------|--|
| H360 | May damage the unborn child. |
| H402 | Harmful to aquatic life. |
| H412 | Harmful to aquatic life with long lasting effects. |

Precautionary Statements (Prevention):

| | |
|------|--|
| P280 | Wear protective gloves, protective clothing and eye protection or face protection. |
| P273 | Avoid release to the environment. |
| 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

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

According to Hazardous Products Regulations (HPR) (SOR/2022-272)

Vitamin A palmitate

CAS Number: 79-81-2
Content (W/W): 80.0 - 100.0%
Synonym: No data available.

Isomers of Retinyl palmitate

Content (W/W): 5.0 - 13.0%
Synonym: No data available.

Sunflower oil

CAS Number: 8001-21-6
Content (W/W): 3.0 - 10.0%

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Synonym: No data available.

BHT

CAS Number: 128-37-0

Content (W/W): 0.5 - 5.0%

Synonym: 2,6-Bis(1,1-dimethylethyl)-4-methylphenol; BHT, Butylated hydroxytoluene, 2,6-Di-tert-butyl-p-cresol

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.

5. Fire-Fighting Measures

Suitable extinguishing media:

water spray, carbon dioxide, dry powder, foam

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Unsuitable extinguishing media for safety reasons:
water jet

Special hazards arising from the substance or mixture

Hazards during fire-fighting:

harmful vapours, carbon oxides

The substances/groups of substances mentioned can be released in case of fire. Burning produces harmful and toxic fumes.

Advice for fire-fighters

Protective equipment for fire-fighting:

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

Further information:

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. Cool endangered containers with water-spray.

6. Accidental release measures

Further 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 disposed of in a safe manner.

Personal precautions, protective equipment and emergency procedures

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

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.

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 contact with the skin, eyes and clothing. Wear suitable protective clothing and eye/face protection. Ensure thorough ventilation of stores and work areas. 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

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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.

8. Exposure Controls/Personal Protection

Components with occupational exposure limits

| | | |
|---------------|------------|--|
| BHT | ACGIH, US: | TWA value 2 mg/m3 Inhalable fraction and vapor ; |
| Sunflower oil | OSHA Z3: | TWA value 5 mg/m3 Respirable fraction ; |
| | OSHA Z3: | TWA value 15 mg/m3 Total dust ; |
| | OSHA Z3: | TWA value 15 millions of particles per cubic foot of air Respirable fraction ; |
| | OSHA Z3: | TWA value 50 millions of particles per cubic foot of air Total dust ; |
| | ACGIH, US: | TWA value 10 mg/m3 Inhalable particles ; |
| | ACGIH, US: | TWA value 3 mg/m3 Respirable particles ; |
| | OSHA Z1: | PEL 15 mg/m3 Total dust ; |
| | OSHA Z1: | PEL 5 mg/m3 Respirable fraction ; |

Advice on system design:

No applicable information available.

Personal protective equipment

Respiratory protection:

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

Hand protection:

Wear chemical resistant protective gloves.

Eye protection:

Tightly fitting safety goggles (chemical goggles).

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. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin. Wearing of closed work clothing is required additionally to the stated personal protection equipment. Store work clothing separately. 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.

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9. Physical and Chemical Properties

| | | |
|---|--|----------------------------|
| Physical state: | liquid | |
| Form: | liquid, partially crystallized | |
| Odour: | almost odourless | |
| Odour threshold: | Not determined due to potential health hazard by inhalation. | |
| Colour: | light yellow | |
| pH value: | substance/mixture is non-soluble (in water) | |
| Melting point: | approx. 26 °C | |
| Freezing point: | No data available. | |
| Boiling point: | The substance / product decomposes therefore not determined. | |
| Sublimation point: | No applicable information available. | |
| Flash point: | approx. 194 °C Information based on the main component/s. | (ISO 2719) |
| Flammability: | not flammable | (derived from flash point) |
| Lower explosion limit: | For liquids not relevant for classification and labelling. | |
| Upper explosion limit: | For liquids not relevant for classification and labelling. | |
| Autoignition: | approx. 261 °C | (DIN EN 14522) |
| Vapour pressure: | 0.01 mbar (100 °C) | |
| Density: | 0.88 g/cm3 (20 °C) | |
| Relative density: | No applicable information available. | |
| Relative vapour density: | not determined | |
| Partitioning coefficient n-octanol/water (log Pow): | not applicable for mixtures | |
| Self-ignition temperature: | Risk of self-ignition when a large surface area is produced due to fine dispersion. | |
| Thermal decomposition: | 170 °C (DSC (DIN 51007)) The values mentioned are those of the active ingredient. | |
| Viscosity, dynamic: | 44 mPa.s (60 °C) | |
| Viscosity, kinematic: | No data available. | |
| Solubility in water: | (20 °C) sparingly soluble | |
| Solubility (quantitative): | No applicable information available. | |
| Solubility (qualitative): | soluble solvent(s): organic solvents, | |
| Molecular weight: | No data available. | |

Particle characteristics

No applicable information available.

10. Stability and Reactivity

Reactivity

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

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

Oxidizing properties:
not fire-propagating

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

Temperature: > 60 degrees Celsius
Disregard of the conditions mentioned may result in undesirable decomposition reactions.
Avoid electro-static discharge. Avoid all sources of ignition: heat, sparks, open flame.

Incompatible materials

oxidizing agents

Hazardous decomposition products

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

Thermal decomposition:
170 °C (DSC (DIN 51007))
The values mentioned are those of the active ingredient.

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.

Information on: Vitamin A palmitate

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

Information on: Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl-

Oral

Information on: Vitamin A palmitate

Type of value: LD50

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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.

Information on: Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl-

Type of value: LD50

Species: rat

Value: > 2,930 mg/kg (OECD Guideline 401)

No mortality was observed.

Type of value: LD50

Species: rat

Value: 6,000 mg/kg (OECD Guideline 401)

Inhalation

No applicable information available.

Dermal

No applicable information available.

Assessment other acute effects

No applicable information available.

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

Irritation / corrosion

Assessment of irritating effects: May cause slight irritation to the skin. Not irritating to the eyes.

Information on: Vitamin A palmitate

Assessment of irritating effects: Not irritating to the eyes. May cause slight irritation to the skin.

Sensitization

Assessment of sensitization: Based on available data, the classification criteria are not met.

Information on: Vitamin A palmitate

Assessment of sensitization:

Skin sensitizing effects were not observed in animal studies.

Aspiration Hazard

No data available.

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.

Information on: Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl-

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Genetic toxicity

Assessment of mutagenicity: In the majority of tests performed (microorganisms) a mutagenic effect was not found. A mutagenic effect was also not observed in in-vivo assays.

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: 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. No carcinogenic potential can be deduced from other studies with rats and mice.

Information on: Vitamin A 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.

Information on: Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl-

Reproductive toxicity

Assessment of reproduction toxicity: No applicable information available.

Information on: Vitamin A palmitate

Assessment of reproduction toxicity: No reliable data are available concerning reproduction toxicity.

Teratogenicity

Assessment of teratogenicity: May cause harm to the unborn child.

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.

12. Ecological Information

Toxicity

Aquatic toxicity

Assessment of aquatic toxicity:

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

Aquatic toxicity

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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.

Information on: Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl-

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.

Information on: Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl-

LC0 (96 h) >= 0.57 mg/l, *Brachydanio rerio* (OECD 203; ISO 7346; 84/449/EWG, C.1, semistatic)

The statement of the toxic effect relates to the analytically determined concentration. Limit concentration test only (LIMIT test).

LC50 (96 h) 0.199 mg/l, Fish

LC50 (96 h) 1.1 mg/l, *Oryzias latipes*

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.

Information on: Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl-

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.

EC50 (48 h) 0.31 mg/l, *Daphnia magna*

EC50 (48 h) 0.92 mg/l, *Daphnia magna*

EC50 (48 h) 0.78 mg/l, Zebra Mussel

EC50 (48 h) 0.84 mg/l, *Daphnia magna* (OECD Guideline 202, part 1)

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.

Information on: Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl-

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.

No observed effect concentration (72 h) 0.4 mg/l (growth rate), *Desmodesmus subspicatus* (Guideline 92/69/EEC, C.3)

(96 h) 0.758 mg/l, algae

(estimated)

(72 h) > 0.24 mg/l, *Pseudokirchneriella subcapitata*

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Assessment of terrestrial toxicity

No data available.

Persistence and degradability

Assessment biodegradation and elimination (H₂O)

Not readily biodegradable (by OECD criteria).

Assessment biodegradation and elimination (H₂O)

Information on: Vitamin A palmitate

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

Information on: Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl-

Bioaccumulative potential

Assessment bioaccumulation potential

The product contains components with potential for bioaccumulation

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).

Information on: Phenol, 2,6-bis(1,1-dimethylethyl)-4-methyl-

May be accumulated in organisms.

Mobility in soil

Assessment transport between environmental compartments

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

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

Add. remarks environm. fate & pathway:

The product has not been tested. The statements on environmental fate and pathway have been derived from the properties of the individual components.

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Other ecotoxicological advice:
The product has not been tested. The statements on ecotoxicology have been derived from the properties of the individual components.

13. Disposal considerations

Waste disposal of substance:

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

Container disposal:

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

14. Transport Information

Land transport

TDG

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:

Feed DSL, CA released / listed

Chemical DSL, CA released / listed

Chemical DSL, CA

DSL listed and/or otherwise compliant.

NFPA Hazard codes:

Health: 1 Fire: 1 Reactivity: 0 Special:

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 |
| Aquatic Acute | 3 | Hazardous to the aquatic environment - acute |
| Aquatic Chronic | 3 | Hazardous to the aquatic environment - chronic |

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16. Other Information

SDS Prepared by:

BASF NA Product Regulations

SDS Prepared on: 2025/08/07

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.

Date / Revised: 2025/08/07

Date / Previous version: 2022/10/31

Version: 5.0

Previous version: 4.0

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