

Safety data sheet

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BASF Safety data sheet
Date / Revised: 02.01.2024
Product: **Lucantin® Red**

Version: 6.0

(30041146/SDS_GEN_VN/EN)

Date of print: 11.10.2025

1. Substance/preparation and manufacturer/supplier identification

Product name:
Lucantin® Red

Use: feed additive(s)

Manufacturer/supplier:
BASF Vietnam Co. Ltd.
Level 23, Deutsches Haus, 33 Le Duan,
Sai Gon Ward, Ho Chi Minh City, Vietnam
Telephone: +84 28 3824 3833
Telefax number: +84 28 3824 3832
E-mail address: minh-triet.thieu@basf.com

Emergency information:
18001703 (Vietnam)
Telefax number: +84 28 3824 3832
International emergency number:
Telephone: +49 180 2273-112

2. Hazard identification

Classification of the substance and mixture:
No need for classification according to GHS criteria for this product.

Label elements and precautionary statement:

The product does not require a hazard warning label in accordance with GHS criteria.

Other hazards which do not result in classification:
The product is under certain conditions capable of dust explosion. The product does not contain a substance fulfilling the PBT (persistent/bioaccumulative/toxic) criteria or the vPvB (very persistent/very bioaccumulative) criteria.

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3. Composition/information on ingredients

Chemical nature

Substance nature: mixture

Preparation based on:
canthaxanthin (Content (W/W): 10 %)

in a matrix of: carbohydrates
, Gelatins

stabilized with:
ethoxyquin

Hazardous ingredients

ethoxyquin

Content (W/W): $\geq 3\%$ - $< 5\%$
CAS Number: 91-53-2

Acute Tox.: Cat. 4 (oral)
Acute Tox.: Cat. 5 (Inhalation - mist)
Aquatic Acute: Cat. 2
Aquatic Chronic: Cat. 2

4. First-Aid Measures

Note to physician:
Symptoms: (Further) symptoms and / or effects are not known so far

5. Fire-Fighting Measures

Suitable extinguishing media:
water spray, carbon dioxide, foam, dry powder

Unsuitable extinguishing media for safety reasons:
water jet

Specific hazards:
carbon oxides
Burning produces harmful and toxic fumes. Dust explosion hazard.

6. Accidental Release Measures

Personal precautions:
Avoid dust formation. Information regarding personal protective measures, see section 8.

Environmental precautions:
Do not discharge into drains/surface waters/groundwater.

Methods for cleaning up or taking up:

For small amounts: Pick up with suitable appliance and dispose of.

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

Dispose of absorbed material in accordance with regulations.

7. Handling and Storage

Handling

Protection against fire and explosion:

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

Storage

Suitable materials for containers: Low density polyethylene (LDPE), glass, Paper/Fibreboard, High density polyethylene (HDPE), Aluminium, tinned carbon steel (Tinplate)

Further information on storage conditions: Keep container tightly closed and dry; store in a cool place.

8. Exposure controls and personal protection

Components with occupational exposure limits

sucrose, 57-50-1;

TWA value 10 mg/m³ (ACGIHTLV)

sunflower oil, 8001-21-6;

TWA value 10 mg/m³ (ACGIHTLV), Inhalable particles

TWA value 3 mg/m³ (ACGIHTLV), Respirable particles

TWA value 10 mg/m³ (OEL (VN)), Mist

Personal protective equipment

Respiratory protection:

Breathing protection if breathable aerosols/dust are formed. Particle filter with low efficiency for solid particles (e.g. EN 143 or 149, Type P1 or FFP1)

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.

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).

9. Physical and Chemical Properties

Form:	powder	
Colour:	red to brown	
Odour:	faint odour, hay-like	
Odour threshold:	not determined	
pH value:	6 (5 %(m), 20 °C)	
Melting point:	> 100 °C	
Boiling point:	not applicable	
Flash point:	not applicable, the product is a solid	
Evaporation rate:	negligible	
Flammability (solid/gas):	not highly flammable	(VDI 2263, sheet 1, 1.1 (May 1990))
Lower explosion limit:	For solids not relevant for classification and labelling.	
Upper explosion limit:	For solids not relevant for classification and labelling.	
Thermal decomposition:	>= 150 °C	
Self heating ability:	It is a substance capable of spontaneous heating according to UN transport regulations class 4.2. Based on test results packaging < 3m ³ are exempted from the classification.	(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:	> 1 J The product is capable of dust explosion.	(DIN EN 13821)
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.	

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Vapour pressure:	negligible	
Density:	No information is available for the absolute density. Instead the bulk density was determined as a more relevant value.	
Bulk density:	approx. 650 kg/m ³	
Relative vapour density (air):	not applicable	
Solubility in water:	dispersible (> 35 °C)	
Miscibility with water:	miscible	
Partitioning coefficient n-octanol/water (log Pow):	not applicable for mixtures	
Information on: canthaxanthin		
Partitioning coefficient n-octanol/water (log Pow):	14.1	(calculated)
	(25 °C)	
Information on: ethoxyquin		
Partitioning coefficient n-octanol/water (log Pow):	3.39	(Regulation 440/2008/EC, A.8)
	(pH value: 7)	

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

10. Stability and Reactivity

Conditions to avoid:

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

Thermal decomposition: $\geq 150\text{ °C}$

Substances to avoid:

None known during use and storage if used according to instructions.

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

Assessment of acute toxicity

Virtually nontoxic after a single ingestion.

Information on: canthaxanthin

Acute oral toxicity

Experimental/calculated data:

LD50 rat (oral): > 5,600 mg/kg (BASF-Test)

Information on: ethoxyquin

Acute oral toxicity

Experimental/calculated data:

LD50 rat (oral): 1,726 mg/kg (similar to OECD guideline 401)

Information on: canthaxanthin

Assessment of acute toxicity

Virtually nontoxic after a single ingestion.

Information on: ethoxyquin

Assessment of acute toxicity

Of moderate toxicity after single ingestion. Of low toxicity after short-term inhalation. Virtually nontoxic after a single skin contact.

Symptoms

(Further) symptoms and / or effects are not known so far

Irritation

Assessment of irritating effects:

Not irritating to eyes and skin.

Information on: canthaxanthin

Assessment of irritating effects:

Not irritating to the skin. Not irritating to the eyes.

Information on: ethoxyquin

Assessment of irritating effects:

Not irritating to eyes and skin.

Respiratory/Skin sensitization

Assessment of sensitization:

There is no evidence of a skin-sensitizing potential.

Information on: canthaxanthin

Assessment of sensitization:

Skin sensitizing effects were not observed in animal studies.

Information on: ethoxyquin

Assessment of sensitization:

No sensitizing effect.

Germ cell mutagenicity

Assessment of mutagenicity:

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

Information on: canthaxanthin

Assessment of mutagenicity:

No mutagenic effect was found in various tests with bacteria and mammalian cell culture. Literature data.

Information on: ethoxyquin

Assessment of mutagenicity:

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

Carcinogenicity

Assessment of carcinogenicity:

Based on the ingredients there is no suspicion of a carcinogenic effect in humans.

Information on: canthaxanthin

Assessment of carcinogenicity:

In long-term studies in rats and mice in which the substance was given by feed, a carcinogenic effect was not observed. Literature data.

Reproductive toxicity

Assessment of reproduction toxicity:

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

Information on: canthaxanthin

Assessment of reproduction toxicity:

The results of animal studies gave no indication of a fertility impairing effect. Literature data.

Information on: ethoxyquin

Assessment of reproduction toxicity:

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

Developmental toxicity

Information on: canthaxanthin

Assessment of teratogenicity:

No indications of a developmental toxic / teratogenic effect were seen in animal studies. Literature data.

Information on: ethoxyquin

Assessment of teratogenicity:

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:

No data available.

Aspiration hazard

No data available.

12. Ecological Information

Ecotoxicity

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: canthaxanthin

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.

Information on: ethoxyquin

Toxicity to fish:

LC50 (96 h) 18 mg/l, *Oncorhynchus mykiss* (OPP 72-1 (EPA-Guideline), Flow through.)

Information on: canthaxanthin

Microorganisms/Effect on activated sludge:

EC10 (30 min) > 10,000 mg/l, *Pseudomonas putida* (DIN 38412 Part 27 (draft))

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

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

Information on: ethoxyquin

Microorganisms/Effect on activated sludge:

EC20 (30 min) approx. 60 mg/l, activated sludge, domestic (DIN EN ISO 8192, aerobic)

Mobility

Assessment transport between environmental compartments:
not determined

Persistence and degradability

Assessment biodegradation and elimination (H₂O):
The product has not been tested.

Information on: canthaxanthin

Information on: ethoxyquin

Information on: canthaxanthin

Elimination information:

< 20 % BOD of the ThOD (28 d) (OECD 301F; ISO 9408; 92/69/EWG, C.4-D) (aerobic, activated sludge, domestic)

Information on: ethoxyquin

Elimination information:

< 20 % BOD of the ThOD (25 d) (OECD Guideline 301 F) (aerobic, activated sludge, industrial)

Bioaccumulation potential

Assessment bioaccumulation potential:
The product has not been tested.

Information on: ethoxyquin

Assessment bioaccumulation potential:

Because of the n-octanol/water distribution coefficient (log Pow) accumulation in organisms is not to be expected.

Information on: canthaxanthin

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).

13. Disposal Considerations

Information on disposal regulations: Must comply with regulations on hazardous waste such as:

- Decree No. 08/2022/ND-CP of the Government: detailing a number of articles of the Law on Environmental Protection.

- Circular No. 02/2022/TT-BTNMT of the Ministry of Natural Resources and Environment: detailing a number of articles of the Law on Environmental Protection.

Observe national and local legal requirements.

14. Transport Information

Domestic transport:

UN number or ID number: UN 3088
UN proper shipping name: SELF-HEATING SOLID, ORGANIC, N.O.S. (CANTHAXANTHIN)
Transport hazard class(es): 4.2
Packing group: III
Environmental hazards: no

Special precautions for user: Not dangerous goods of class 4.2 in packages up to 3000 litres capacity.

Sea transport

IMDG

UN number or ID number: UN 3088
UN proper shipping name: SELF-HEATING SOLID, ORGANIC, N.O.S. (CANTHAXANTHIN)
Transport hazard class(es): 4.2
Packing group: III
Environmental hazards: no

Marine pollutant: NO
Special precautions for user: EmS: F-A; S-J
Not dangerous goods of class 4.2 in packages up to 3000 litres capacity.

Air transport

IATA/ICAO

UN number or ID number: UN 3088
UN proper shipping name: SELF-HEATING SOLID, ORGANIC, N.O.S. (CANTHAXANTHIN)
Transport hazard class(es): 4.2
Packing group: III
Environmental hazards: No Mark as dangerous for the environment is needed
Special precautions for user: Not dangerous goods of class 4.2 in packages up to 3000 litres capacity.

Further information

Not dangerous goods of class 4.2 in packages up to 3000 litres capacity.

15. Regulatory Information

Other regulations

The SDS is composed based on the Global Harmonization Globally Harmonized System of Classification and Labeling of Chemicals and applicable local chemical regulations as following:

- The Chemical Law 06/2007/QH12 issued on 21/11/2007.
- The decree No. 113/2017/ND-CP specifying and providing guidelines for implementation of certain articles of the law on chemicals.
- The decree No. 82/2022/ND-CP Amendments to some articles of government's decree no.113/2017/ND-CP dated October 09, 2017 specifying and providing guidelines for implementation of certain articles of the law on chemicals.
- Circular 17/2022/TT-BCT Amendments to some articles of circular no. 32/2017/TT-BCT dated December 28, 2017 of the Minister Of Industry And Trade on elaboration and provision of guidelines for implementation of certain articles of the law on chemicals and the government's decree no. 113/2017/ ND-CP dated October 09, 2017 on elaboration and provision of guidelines for implementation of certain articles of the law on chemicals.
- The decree No. 17/2020/ND-CP Amendments to some articles of decrees related to necessary business conditions in fields under the management of the Ministry Of Industry and Trade.
- The decree No. 42/2020/ND-CP on list of dangerous goods, transport of dangerous goods by land motor vehicles and transport of dangerous goods by inland waterways.
- The Circular 32/2017/TT-BCT specifying and providing guidelines for implementation of certain articles of the law on chemicals and the government's decree no. 113/2017/ND-CP dated October 09, 2017 specifying and providing guidelines for implementation of certain articles of the law on chemicals.

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.