

Safety data sheet

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BASF safety data sheet. This is a translation of the country-specific safety data sheet into a language other than that required by law. This document does not replace the safety data sheet provided according to Regulation (EC) No 1907/2006.

Date / Revised: 30.03.2022

Version: 1.0

Date previous version: not applicable

Previous version: none

Date / First version: 30.03.2022

Product: **Lucantin® Red**

(ID no. 30041146/SDS_GEN_DK/EN)

Date of print 23.10.2025

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Lucantin® Red

Product registration number: 1871976

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

Relevant identified uses: feed additive(s)

1.3. Details of the supplier of the safety data sheet

Company:BASF SE
67056 Ludwigshafen
GERMANYContact address:BASF A/S
Kalvebod Brygge 45, 2. sal
1560 København
DENMARK

Telephone: +45 32 6-60700

E-mail address: product-safety-north@basf.com

1.4. Emergency telephone number

Giftlinjen: +45 82121212, 24-timers service 7 dage om ugen

International emergency number:

Telephone: +49 180 2273-112

SECTION 2: Hazards Identification

2.1. Classification of the substance or mixture

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For the classification of the mixture the following methods have been applied: extrapolation on the concentration levels of the hazardous substances, on basis of test results and after evaluation of experts. The methodologies used are mentioned at the respective test results.

According to Regulation (EC) No 1272/2008 [CLP]

No need for classification according to GHS criteria for this product.

2.2. Label elements

Globally Harmonized System, EU (GHS)

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

2.3. Other hazards

According to Regulation (EC) No 1272/2008 [CLP]

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.

SECTION 3: Composition/Information on Ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Chemical nature

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

in a matrix of: carbohydrates, Gelatins

stabilized with: ethoxyquin (ISO)

Hazardous ingredients (GHS)

according to Regulation (EC) No. 1272/2008

ethoxyquin (ISO)

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Content (W/W): $\geq 3\%$ - $< 5\%$

CAS Number: 91-53-2

EC-Number: 202-075-7

INDEX-Number: 613-014-00-2

Acute Tox. 4 (oral)

Aquatic Chronic 2

H302, H411

For the classifications not written out in full in this section, including the hazard classes and the hazard statements, the full text is listed in section 16.

SECTION 4: First-Aid Measures

4.1. Description of first aid measures

Remove contaminated clothing.

If inhaled:

Keep patient calm, remove to fresh air.

On skin contact:

Wash thoroughly with soap and water

On contact with eyes:

Wash affected eyes for at least 15 minutes under running water with eyelids held open.

On ingestion:

Rinse mouth and then drink 200-300 ml of water.

4.2. Most important symptoms and effects, both acute and delayed

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

4.3. Indication of any immediate medical attention and special treatment needed

Treatment: Symptomatic treatment (decontamination, vital functions).

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing media

Suitable extinguishing media:

water spray, carbon dioxide, foam, dry powder

Unsuitable extinguishing media for safety reasons:

water jet

5.2. Special hazards arising from the substance or mixture

Endangering substances: carbon oxides

Advice: Burning produces harmful and toxic fumes. Dust explosion hazard.

5.3. Advice for fire-fighters

Special protective equipment:

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Wear a self-contained breathing apparatus.

Further information:

Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

SECTION 6: Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures

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

6.2. Environmental precautions

Do not discharge into drains/surface waters/groundwater.

6.3. Methods and material for containment and cleaning 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.

6.4. Reference to other sections

Information regarding exposure controls/personal protection and disposal considerations can be found in section 8 and 13.

SECTION 7: Handling and Storage

7.1. Precautions for safe handling

Handle in accordance with good industrial hygiene and safety practice.

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.

7.2. Conditions for safe storage, including any incompatibilities

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.

7.3. 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.

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SECTION 8: Exposure Controls/Personal Protection

8.1. Control parameters

Components with occupational exposure limits

none

8.2. Exposure controls

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.

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

Handle in accordance with good industrial hygiene and safety practice.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic 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

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Boiling point:	not applicable	
Flash point:	not applicable, the product is a solid	
Evaporation rate:	negligible	
Flammability:	not highly flammable	(VDI 2263, sheet 1, 1.1)
Lower explosion limit:	For solids not relevant for classification and labelling.	
Upper explosion limit:	For solids not relevant for classification and labelling.	
Vapour pressure:	negligible	
Relative vapour density (air):	not applicable	
Solubility in water:	dispersible (> 35 °C)	
Partitioning coefficient n-octanol/water (log Kow):	not applicable for mixtures	
<i>Information on: Canthaxanthin</i>		
Partitioning coefficient n-octanol/water (log Kow):	14,1 (25 °C)	(calculated)
<i>Information on: ethoxyquin (ISO)</i>		
Partitioning coefficient n-octanol/water (log Kow):	3,39 (pH value: 7)	(Regulation 440/2008/EC, A.8)

Thermal decomposition:	>= 150 °C	
Viscosity, dynamic:	not applicable, the product is a solid	
Viscosity, kinematic:	not applicable, the product is a solid	
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.	

9.2. Other information

Burning rate:	Study does not need to be conducted.
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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	
Minimum ignition energy:	Heat accumulation / Dewar 500 ml (SADT, UN-Test H.4, 28.4.4)	
	> 1 J	(DIN EN 13821)
	The product is capable of dust explosion.	
Bulk density:	approx. 650 kg/m ³	
Miscibility with water:	miscible	

SECTION 10: Stability and Reactivity

10.1. Reactivity

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

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

10.2. Chemical stability

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

10.3. Possibility of hazardous reactions

Dust explosion hazard.

10.4. Conditions to avoid

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

10.5. Incompatible materials

Substances to avoid:

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

10.6. Hazardous decomposition products

Hazardous decomposition products:

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

SECTION 11: Toxicological Information

11.1. Information on toxicological effects

Acute toxicity

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

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

Information on: ethoxyquin (ISO)
Assessment of acute toxicity:
Of moderate toxicity after single ingestion. Of low toxicity after short-term inhalation. Virtually nontoxic after a single skin contact.

Information on: Canthaxanthin

Experimental/calculated data:
LD50 rat (oral): > 5.600 mg/kg (BASF-Test)

Information on: ethoxyquin (ISO)

Experimental/calculated data:
LD50 rat (oral): 1.726 mg/kg (similar to OECD guideline 401)

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 (ISO)
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 (ISO)

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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 (ISO)

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 (ISO)

Assessment of reproduction toxicity:

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

Developmental toxicity

Information on: Canthaxanthin

Assessment of teratogenicity:

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

Information on: ethoxyquin (ISO)

Assessment of teratogenicity:

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

Specific target organ toxicity (single exposure)

No data available.

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

Assessment of repeated dose toxicity:

No data available.

Aspiration hazard

No data available.

SECTION 12: Ecological Information

12.1. Toxicity

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 (ISO)

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)

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Information on: ethoxyquin (ISO)

Microorganisms/Effect on activated sludge:

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

12.2. Persistence and degradability

Assessment biodegradation and elimination (H₂O):

The product has not been tested.

Information on: Canthaxanthin

Assessment biodegradation and elimination (H₂O):

Not readily biodegradable (by OECD criteria). Poorly biodegradable.

Information on: ethoxyquin (ISO)

Assessment biodegradation and elimination (H₂O):

Not readily biodegradable (by OECD criteria).

Information on: Canthaxanthin

Elimination information:

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

Information on: ethoxyquin (ISO)

Elimination information:

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

12.3. Bioaccumulative potential

Assessment bioaccumulation potential:

The product has not been tested.

Information on: ethoxyquin (ISO)

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).

12.4. Mobility in soil

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Assessment transport between environmental compartments:

Adsorption in soil: not determined

12.5. Results of PBT and vPvB assessment

According to Annex XIII of Regulation (EC) No.1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH): The product does not contain a substance fulfilling the PBT (persistent/bioaccumulative/toxic) criteria or the vPvB (very persistent/very bioaccumulative) criteria. Self classification

12.6. Other adverse effects

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

SECTION 13: Disposal Considerations

13.1. Waste treatment methods

Observe national and local legal requirements.

SECTION 14: Transport Information

Land transport

ADR

UN number or ID number: UN3088

UN proper shipping name: SELF-HEATING SOLID, ORGANIC, N.O.S. (contains CANTHAXANTHIN)

Transport hazard class(es): 4.2

Packing group: III

Environmental hazards: no

Special precautions for user: Tunnel code: E

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

RID

UN number or ID number: UN3088

UN proper shipping name: SELF-HEATING SOLID, ORGANIC, N.O.S. (contains CANTHAXANTHIN)

Transport hazard class(es): 4.2

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Packing group:	III
Environmental hazards:	no
Special precautions for user:	Not dangerous goods of class 4.2 in packages up to 3000 litres capacity.

Inland waterway transport

ADN

UN number or ID number:	UN3088
UN proper shipping name:	SELF-HEATING SOLID, ORGANIC, N.O.S. (contains 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.

Transport in inland waterway vessel

Not evaluated

Sea transport

IMDG

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

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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.

14.1. UN number or ID number

See corresponding entries for "UN number or ID number" for the respective regulations in the tables above.

14.2. UN proper shipping name

See corresponding entries for "UN proper shipping name" for the respective regulations in the tables above.

14.3. Transport hazard class(es)

See corresponding entries for "Transport hazard class(es)" for the respective regulations in the tables above.

14.4. Packing group

See corresponding entries for "Packing group" for the respective regulations in the tables above.

14.5. Environmental hazards

See corresponding entries for "Environmental hazards" for the respective regulations in the tables above.

14.6. Special precautions for user

See corresponding entries for "Special precautions for user" for the respective regulations in the tables above.

14.7. Maritime transport in bulk according to IMO instruments

Maritime transport in bulk is not intended.

Further information

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

SECTION 15: Regulatory Information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Directive 2012/18/EU - Control of Major Accident Hazards involving dangerous substances (EU):
Listed in above regulation: no

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

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15.2. Chemical Safety Assessment

Chemical Safety Assessment not required

SECTION 16: Other Information

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

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

Acute Tox.

Acute toxicity

Aquatic Chronic

Hazardous to the aquatic environment - chronic

H302

Harmful if swallowed.

H411

Toxic to aquatic life with long lasting effects.

Abbreviations

ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road.
ADN = The European Agreement concerning the International Carriage of Dangerous Goods by Inland waterways. ATE = Acute Toxicity Estimates. CAO = Cargo Aircraft Only. CAS = Chemical Abstract Service. CLP = Classification, Labelling and Packaging of substances and mixtures. DIN = German national organization for standardization. DNEL = Derived No Effect Level. EC50 = Effective concentration median for 50% of the population. EC = European Community. EN = European Standards. IARC = International Agency for Research on Cancer. IATA = International Air Transport Association. IBC-Code = Intermediate Bulk Container code. IMDG = International Maritime Dangerous Goods Code. ISO = International Organization for Standardization. STEL = Short-Term Exposure Limit. LC50 = Lethal concentration median for 50% of the population. LD50 = Lethal dose median for 50% of the population. TLV = Threshold Limit Value. MARPOL = The International Convention for the Prevention of Pollution from Ships. NEN = Dutch Norm. NOEC = No Observed Effect Concentration. OEL = Occupational Exposure Limit. OECD = Organization for Economic Cooperation and Development. PBT = Persistent, Bioaccumulative and Toxic. PNEC = Predicted No Effect Level. PPM = Parts per million. RID = The European Agreement concerning the International Carriage of Dangerous Goods by Rail. TWA = Time Weight Average. UN-number = UN number at transport. vPvB = very Persistent and very Bioaccumulative.

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.