

Safety data sheet

Page: 1/14

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

Date / Revised: 06.12.2019

Version: 1.2

Product: **Lucantin® Red**

(ID no. 30041146/SDS_GEN_00/EN)

Date of print 14.10.2025

1. Identification

Product identifier

Lucantin® Red

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

Relevant identified uses: feed additive(s)

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

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

Label elements

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

Date / Revised: 06.12.2019

Product: **Lucantin® Red**

Version: 1.2

(ID no. 30041146/SDS_GEN_00/EN)

Date of print 14.10.2025

Globally Harmonized System (GHS)

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

Other hazardsAccording to UN GHS criteria

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.

3. Composition/Information on Ingredients**Substances**

Not applicable

MixturesChemical nature

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

in a matrix of: carbohydrates, Gelatins

stabilized with: Ethoxyquin

Hazardous ingredients (GHS)

According to UN GHS criteria

Ethoxyquin

Content (W/W): $\geq 3\%$ - $< 5\%$	Acute Tox. 4 (oral)
CAS Number: 91-53-2	Aquatic Chronic 2
EC-Number: 202-075-7	Acute Tox. 4 (Inhalation - dust)
INDEX-Number: 613-014-00-2	Aquatic Acute 2
	H302 + H332, H401, H411

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**

Remove contaminated clothing.

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

Date / Revised: 06.12.2019

Version: 1.2

Product: **Lucantin® Red**

(ID no. 30041146/SDS_GEN_00/EN)

Date of print 14.10.2025

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.

Most important symptoms and effects, both acute and delayed

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

Indication of any immediate medical attention and special treatment needed

Treatment: Symptomatic treatment (decontamination, vital functions).

5. Fire-Fighting Measures**Extinguishing media**

Suitable extinguishing media:

water spray, carbon dioxide, foam, dry powder

Unsuitable extinguishing media for safety reasons:

water jet

Special hazards arising from the substance or mixture

carbon oxides

Burning produces harmful and toxic fumes. 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.

6. Accidental Release Measures**Personal precautions, protective equipment and emergency procedures**

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

Environmental precautions

Do not discharge into drains/surface waters/groundwater.

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

Date / Revised: 06.12.2019

Version: 1.2

Product: **Lucantin® Red**

(ID no. 30041146/SDS_GEN_00/EN)

Date of print 14.10.2025

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.

7. Handling and Storage**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.

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.

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

91-53-2: Ethoxyquin

8001-21-6: Sunflower oil

9000-70-8: Gelatins

Exposure controlsPersonal 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:

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

Date / Revised: 06.12.2019

Version: 1.2

Product: **Lucantin® Red**

(ID no. 30041146/SDS_GEN_00/EN)

Date of print 14.10.2025

Suitable chemical resistant safety gloves (EN 374) also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN 374): 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.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Form:	powder	
Colour:	red to brown	
Odour:	faint specific odour	
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:	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	

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

Date / Revised: 06.12.2019

Version: 1.2

Product: **Lucantin® Red**

(ID no. 30041146/SDS_GEN_00/EN)

Date of print 14.10.2025

Solubility in water: dispersible
(> 35 °C)

Partitioning coefficient n-octanol/water (log Kow):
not applicable for mixtures

Information on: Canthaxanthin
Partitioning coefficient n-octanol/water (log Kow): 14,1 (calculated)
(25 °C)

Information on: Ethoxyquin
Partitioning coefficient n-octanol/water (log Kow): 3,39 (measured)
(pH value: 7)
3,18 (measured)
(pH value: 5)
3,19 (measured)
(pH value: 9)

Thermal decomposition: >= 150 °CViscosity, dynamic:
not applicable, the product is a solidViscosity, kinematic:
not applicable, the product is a solidExplosion hazard:
Based on the chemical structure
there is no indicating of explosive
properties.Fire promoting properties: Based on its structural properties
the product is not classified as
oxidizing.**Other information**

Burning rate:
Study does not need to be
conducted.

Self heating ability: It is a substance capable of (UN Test N.4 (self heating
spontaneous heating according to substances))
UN transport regulations class 4.2.
Based on test results packaging <
3m³ are exempted from the
classification.

Minimum ignition energy: > 1 J (DIN EN 13821)
The product is capable of dust
explosion.

Bulk density: approx. 650 kg/m³

Miscibility with water: miscible

10. Stability and Reactivity**Reactivity**

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

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

Date / Revised: 06.12.2019

Version: 1.2

Product: **Lucantin® Red**

(ID no. 30041146/SDS_GEN_00/EN)

Date of print 14.10.2025

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

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

Incompatible materials

Substances to avoid:

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

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.

Information on: Canthaxanthin

Assessment of acute toxicity:

Virtually nontoxic after a single ingestion.

Information on: Ethoxyquin

Assessment of acute toxicity:

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

Information on: Canthaxanthin

Experimental/calculated data:

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

Information on: Ethoxyquin

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

Date / Revised: 06.12.2019

Version: 1.2

Product: **Lucantin® Red**

(ID no. 30041146/SDS_GEN_00/EN)

Date of print 14.10.2025

*Experimental/calculated data:**LD50 rat (oral): 1.675 mg/kg (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**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:

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

Date / Revised: 06.12.2019

Version: 1.2

Product: **Lucantin® Red**

(ID no. 30041146/SDS_GEN_00/EN)

Date of print 14.10.2025

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

Toxicity

Assessment of aquatic toxicity:

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

Date / Revised: 06.12.2019

Version: 1.2

Product: **Lucantin® Red**

(ID no. 30041146/SDS_GEN_00/EN)

Date of print 14.10.2025

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)*

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

BASF Safety data sheet according to UN GHS 4th rev.
Date / Revised: 06.12.2019
Product: **Lucantin® Red**

Version: 1.2

(ID no. 30041146/SDS_GEN_00/EN)

Date of print 14.10.2025

Bioaccumulative 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).

Mobility in soil

Assessment transport between environmental compartments:
Adsorption in soil: not determined

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

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

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

Date / Revised: 06.12.2019

Version: 1.2

Product: **Lucantin® Red**

(ID no. 30041146/SDS_GEN_00/EN)

Date of print 14.10.2025

UN 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 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.

Inland waterway transport**ADN**

UN 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: UN 3088
UN proper shipping name: SELF-HEATING SOLID, ORGANIC, N.O.S. (contains CANTHAXANTHIN)
Transport hazard class(es): 4.2
Packing group: III

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

Date / Revised: 06.12.2019

Version: 1.2

Product: **Lucantin® Red**

(ID no. 30041146/SDS_GEN_00/EN)

Date of print 14.10.2025

Environmental hazards:	no
Special precautions for user:	Marine pollutant: NO Not dangerous goods of class 4.2 in packages up to 3000 litres capacity.

Air transport

IATA/ICAO

UN 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 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.

Transport in bulk according to Annex II of MARPOL and the IBC Code

Regulation:	Not evaluated
Shipment approved:	Not evaluated
Pollution name:	Not evaluated
Pollution category:	Not evaluated
Ship Type:	Not evaluated

Further information

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

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:

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

Date / Revised: 06.12.2019

Version: 1.2

Product: **Lucantin® Red**

(ID no. 30041146/SDS_GEN_00/EN)

Date of print 14.10.2025

Acute Tox.	Acute toxicity
Aquatic Chronic	Hazardous to the aquatic environment - chronic
Aquatic Acute	Hazardous to the aquatic environment - acute
H302 + H332	Harmful if swallowed or if inhaled
H401	Toxic to aquatic life.
H411	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.

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