

Safety data sheet

Page: 1/11

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

Date / Revised: 22.03.2023

Version: 3.0

Product: **Beta-Carotene 20% CWD/R**

(ID no. 30283190/SDS_GEN_00/EN)

Date of print 30.05.2024

1. Identification

Product identifier

Beta-Carotene 20% CWD/R

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

Relevant identified uses: food 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

Safety data sheet according to UN GHS 4th rev.

Date / Revised: 22.03.2023

Version: 3.0

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(ID no. 30283190/SDS_GEN_00/EN)

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Globally Harmonized System (GHS)

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

Other hazards

According to UN GHS criteria

The product is under certain conditions capable of dust explosion.

3. Composition/Information on Ingredients

Substances

Not applicable

Mixtures

Chemical nature

β,β -Carotene

CAS-Nr. 7235-40-7 EINECS-Nr. 230-636-6

in a matrix of: carbohydrates

Hazardous ingredients (GHS)

According to UN GHS criteria

No particular hazards known.

4. First-Aid Measures

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.

Most important symptoms and effects, both acute and delayed

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

Safety data sheet according to UN GHS 4th rev.

Date / Revised: 22.03.2023

Product: **Beta-Carotene 20% CWD/R**

Version: 3.0

(ID no. 30283190/SDS_GEN_00/EN)

Date of print 30.05.2024

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:
foam, dry powder, water spray

Unsuitable extinguishing media for safety reasons:
water jet

Additional information:

Avoid whirling up the material/product because of the danger of dust explosion.

Special hazards arising from the substance or mixture

harmful vapours, carbon oxides

The substances/groups of substances mentioned can be released in case of fire. 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.
Cool endangered containers with water-spray.

6. Accidental Release Measures

Dust can form an explosive mixture with air.

Personal precautions, protective equipment and emergency procedures

Use personal protective clothing. Information regarding personal protective measures, see section 8.
Avoid dust formation. Avoid contact with the skin, eyes and clothing.

Environmental precautions

Do not discharge into drains/surface waters/groundwater.

Methods and material for containment and cleaning up

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

For large amounts: Sweep/shovel up.

Dispose of absorbed material in accordance with regulations. Avoid raising dust.

7. Handling and Storage

Precautions for safe handling

Avoid dust formation. Provide exhaust ventilation if dust is formed.

Protection against fire and explosion:

Safety data sheet according to UN GHS 4th rev.

Date / Revised: 22.03.2023

Version: 3.0

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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. Use explosion-proof apparatus and fittings.

Conditions for safe storage, including any incompatibilities

Further information on storage conditions: Containers should be stored tightly sealed in a dry place. Protect against heat. Protect contents from the effects of light.

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

134-03-2: Sodium ascorbate

7758-87-4: Tricalcium bis(orthophosphate)

9005-25-8: Starch

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:

Chemical resistant protective gloves (EN ISO 374-1)

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. Wearing of closed work clothing is recommended. 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

Safety data sheet according to UN GHS 4th rev.

Date / Revised: 22.03.2023

Version: 3.0

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Form:	powder
Colour:	dark red
Odour:	not applicable
Odour threshold:	not determined
pH value:	4,1 (10 %(m), 25 °C)
Melting point:	The substance / product decomposes therefore not determined.
Boiling point:	not applicable
Flash point:	not applicable, the product is a solid
Evaporation rate:	not applicable
Flammability:	not highly flammable
Lower explosion limit:	For solids not relevant for classification and labelling.
Upper explosion limit:	For solids not relevant for classification and labelling.
Ignition temperature:	No data available.
Vapour pressure:	negligible
Density:	No information is available for the absolute density. Instead the bulk density was determined as a more relevant value.
Relative vapour density (air):	The product is a non-volatile solid.
Solubility in water:	dispersible (10 °C)
Partitioning coefficient n-octanol/water (log Kow):	not applicable for mixtures
Thermal decomposition:	No data available.
Viscosity, dynamic:	not applicable, the product is a solid
Explosion hazard:	Product is not explosive, however a dust explosion could result from an air / dust mixture.
Fire promoting properties:	Based on its structural properties the product is not classified as oxidizing.

Other information

Self heating ability:	It is not a substance capable of spontaneous heating.	(VDI 2263, sheet 1, 1.4.1)
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Safety data sheet according to UN GHS 4th rev.

Date / Revised: 22.03.2023

Version: 3.0

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(ID no. 30283190/SDS_GEN_00/EN)

Date of print 30.05.2024

SADT:	Not a substance liable to self-decomposition according to UN transport regulations, class 4.1.
Minimum ignition energy:	The product is capable of dust explosion. (VDI 2263, sheet 1, 2.5)
Bulk density:	approx. 600 kg/m ³

10. Stability and Reactivity

Reactivity

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

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

Avoid all sources of ignition: heat, sparks, open flame.

Avoid dust formation. Avoid heat. Avoid light. See SDS section 7 - Handling and storage.

Incompatible materials

Substances to avoid:
atmospheric moisture

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: β,β -Carotene

Experimental/calculated data:

LD50 rat (oral): > 5.000 mg/kg (BASF-Test)

Irritation

Assessment of irritating effects:

Safety data sheet according to UN GHS 4th rev.

Date / Revised: 22.03.2023

Version: 3.0

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Not irritating to eyes and skin.

Information on: β,β -Carotene

Experimental/calculated data:

Skin corrosion/irritation rabbit: non-irritant (BASF-Test)

Information on: β,β -Carotene

Experimental/calculated data:

Serious eye damage/irritation rabbit: non-irritant (OECD Guideline 405)

Respiratory/Skin sensitization

Assessment of sensitization:

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

Germ cell mutagenicity

Assessment of mutagenicity:

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

Information on: β,β -Carotene

Assessment of mutagenicity:

Results from a number of mutagenicity studies with microorganisms, mammalian cell culture and mammals are available. Taking into account all of the information, there is no indication that the substance is mutagenic.

Carcinogenicity

Assessment of carcinogenicity:

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

Information on: β,β -Carotene

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.

Reproductive toxicity

Assessment of reproduction toxicity:

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

Information on: β,β -Carotene

Assessment of reproduction toxicity:

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

Developmental toxicity

Assessment of teratogenicity:

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

Safety data sheet according to UN GHS 4th rev.

Date / Revised: 22.03.2023

Version: 3.0

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(ID no. 30283190/SDS_GEN_00/EN)

Date of print 30.05.2024

Information on: β,β -Carotene

Assessment of teratogenicity:

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

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.

Aspiration hazard

No aspiration hazard expected.

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:

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: β,β -Carotene

Toxicity to fish:

*LC50 (96 h) > 10.000 mg/l, *Leuciscus idus* (DIN 38412 Part 15, static)*

Tested above maximum solubility. The details of the toxic effect relate to the nominal concentration.

Information on: β,β -Carotene

Microorganisms/Effect on activated sludge:

*EC50 (0,5 h) > 10.000 mg/l, *Pseudomonas putida* (DIN 38412 Part 27 (draft), static)*

The product has low solubility in the test medium. An aqueous solution prepared with solubilizers has been tested. The details of the toxic effect relate to the nominal concentration.

Persistence and degradability

Assessment biodegradation and elimination (H₂O):

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

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Information on: β,β -Carotene

Elimination information:

30 - 40 % CO₂ formation relative to the theoretical value (28 d) (OECD 301B; ISO 9439; 92/69/EEC, C.4-C) (aerobic, activated sludge, domestic)

Bioaccumulative potential

Assessment bioaccumulation potential:

Accumulation in organisms is not to be expected.

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

Information on: β,β -Carotene

Assessment 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: No data available.

Information on: β,β -Carotene

Assessment transport between environmental compartments:

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

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 statements on ecotoxicology have been derived from the properties of the individual components.

13. Disposal Considerations

Waste treatment methods

Observe national and local legal requirements.

Contaminated packaging:

Uncontaminated packaging can be re-used.

Packs that cannot be cleaned should be disposed of in the same manner as the contents.

14. Transport Information

Land transport

ADR

	Not classified as a dangerous good under transport regulations
UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

RID

	Not classified as a dangerous good under transport regulations
UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

Inland waterway transport

ADN

	Not classified as a dangerous good under transport regulations
UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user:	None known

Transport in inland waterway vessel

Not evaluated

Sea transport

IMDG

	Not classified as a dangerous good under transport regulations
UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for	None known

Safety data sheet according to UN GHS 4th rev.

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Date of print 30.05.2024

user

Air transport

IATA/ICAO

	Not classified as a dangerous good under transport regulations
UN number or ID number	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

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.

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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