1. Identification

Product identifier used on the label

Beta-Carotene 10% DC

Recommended use of the chemical and restriction on use
Recommended use*: food additive(s)

* 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.
100 Milverton Drive
Mississauga, ON L5R 4H1, CANADA

Telephone: +1 289 360-1300

Emergency telephone number

CANUTEC (reverse charges): (613) 996-6666
BASF HOTLINE: (800) 454-COPE (2673)

Other means of identification
Synonyms: ß,ß-carotene

2. Hazards Identification

According to Hazardous Products Regulations (HPR) (SOR/2015-17)

Classification of the product

Combustible Dust

Combustible Dust (1)

Combustible Dust

Label elements

Signal Word:
Warning

Hazard Statement:
May form combustible dust concentration in air.

Hazards not otherwise classified

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

According to Hazardous Products Regulations (HPR) (SOR/2015-17)

<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Weight %</th>
<th>Chemical name</th>
</tr>
</thead>
<tbody>
<tr>
<td>57-50-1</td>
<td>28.0 - 32.0%</td>
<td>sucrose</td>
</tr>
<tr>
<td>9005-25-8</td>
<td>18.0 - 22.0%</td>
<td>Starch</td>
</tr>
</tbody>
</table>

4. First-Aid Measures

Description of first aid measures

General advice:
Remove contaminated clothing.

If inhaled:
Keep patient calm, remove to fresh air.

If on skin:
Wash thoroughly with soap and water.

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

If swallowed:
Rinse mouth and then drink plenty of water.

Most important symptoms and effects, both acute and delayed

Symptoms: No significant symptoms are expected due to the non-classification of the product.

Indication of any immediate medical attention and special treatment needed

Note to physician
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
Hazards during fire-fighting:
carbon oxides, harmful vapours
The substances/groups of substances mentioned can be released in case of fire. Dust explosion hazard.

Dust explosion hazard.

Advice for fire-fighters
Protective equipment for fire-fighting:
Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

Further information:
Dispose of fire debris and contaminated extinguishing water in accordance with official regulations. Cool endangered containers with water-spray.

Dusty conditions may ignite explosively in the presence of an ignition source causing flash fire.

6. Accidental release measures

Further accidental release measures:
Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Avoid the formation and build-up of dust - danger of dust explosion. Dust in sufficient concentration can result in an explosive mixture in air. Handle to minimize dusting and eliminate open flame and other sources of ignition.

Personal precautions, protective equipment and emergency procedures
Use personal protective clothing. Information regarding personal protective measures see, section 8. Avoid dust formation.

Environmental precautions
Do not empty into drains.

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. Avoid raising dust.

Nonsparking tools should be used.

7. Handling and Storage

Precautions for safe handling
Avoid dust formation. Provide exhaust ventilation if dust is formed.

Protection against fire and explosion:
Avoid dust formation. Dust in sufficient concentration can result in an explosive mixture in air. Handle to minimize dusting and eliminate open flame and other sources of ignition. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres. Refer to NFPA 654,
Conditions for safe storage, including any incompatibilities

Suitable materials for containers: High density polyethylene (HDPE), Low density polyethylene (LDPE)

Further information on storage conditions: Protect contents from the effects of light. Keep container tightly closed and dry; store in a cool place.

8. Exposure Controls/Personal Protection

Components with occupational exposure limits

<table>
<thead>
<tr>
<th>Component</th>
<th>OSHA PEL</th>
<th>PEL 15 mg/m3 Total dust</th>
<th>PEL 5 mg/m3 Respirable fraction</th>
<th>TWA value 15 mg/m3 Total dust</th>
<th>TWA value 5 mg/m3 Respirable fraction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sucrose</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>starch</td>
<td></td>
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</tbody>
</table>

Advice on system design:
It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen deficient environment. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment). Use only appropriately classified electrical equipment and powered industrial trucks.

Personal protective equipment

Respiratory protection:
Wear a NIOSH-certified (or equivalent) particulate respirator.

Hand protection:
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, light protective clothing

General safety and hygiene measures:
Do not breathe dust. 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

Form: powder
### 10. Stability and Reactivity

**Reactivity**

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

Oxidizing properties:
Based on its structural properties the product is not classified as oxidizing.

Minimum ignition energy:
100 - 300 mJ (VDI 2263, sheet 1, 2.5)
The product is capable of dust explosion.

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

**Possibility of hazardous reactions**
Dust explosion hazard.

**Conditions to avoid**

**Incompatible materials**
atmospheric oxygen

**Hazardous decomposition products**

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

Thermal decomposition:
approx. 150 °C
self-accelerating reaction

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

Oral

Information on: beta-Carotene
Type of value: LD50
Species: rat
Value: > 5,000 mg/kg (BASF-Test)

Information on: Sucrose
Type of value: LD50
Species: rat (male/female)
Value: 29,700 - 35,400 mg/kg

Information on: Starch
Type of value: LD50
Value: > 5,000 mg/kg

Assessment other acute effects
Assessment of STOT single:
Based on available Data, the classification criteria are not met.

Irritation / corrosion
Assessment of irritating effects: Not irritating to the skin. Not irritating to the eyes. The product has not been tested. The statement has been derived from the properties of the individual components.

Skin

Information on: beta-Carotene
Species: rabbit
Result: non-irritant
Method: BASF-Test

Information on: Sucrose
Species: rabbit
Result: non-irritant

Species: rabbit
Result: non-irritant
Eye

Information on: beta-Carotene
Species: rabbit
Result: non-irritant
Method: OECD Guideline 405

Information on: Sucrose
Species: rabbit
Result: non-irritant

Sensitization
Assessment of sensitization: Skin sensitizing effects were not observed in animal studies. The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: Vitamin C sodium
Assessment of sensitization:
Skin sensitizing effects were not observed in animal studies.

Information on: Ascorbyl palmitate
Assessment of sensitization:
The substance did not cause skin sensitization in humans.

Aspiration Hazard
No data available.

Chronic Toxicity/Effects

Repeated dose toxicity
Assessment of repeated dose toxicity: No data available.

Genetic toxicity
Assessment of mutagenicity: Mutagenicity tests revealed no genotoxic potential. The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: beta-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: Not evaluated

Reproductive toxicity
Assessment of reproduction toxicity: No data available.

Teratogenicity
Assessment of teratogenicity: No data was available concerning toxicity to development.

Symptoms of Exposure

No significant symptoms are expected due to the non-classification of the product.
12. Ecological Information

Toxicity

Aquatic toxicity
Assessment of aquatic toxicity:
There is a high probability that the product is not acutely harmful to aquatic organisms. The product has not been tested. The statement has been derived from the properties of the individual components.

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Toxicity to fish

Information on: beta-Carotene
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.

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Microorganisms/Effect on activated sludge

Toxicity to microorganisms

Information on: beta-Carotene
DIN 38412 Part 27 (draft) static bacterium/EC50 (0.5 h): > 10,000 mg/l
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.

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Persistence and degradability

Assessment biodegradation and elimination (H2O)
Biodegradable. The product has not been tested. The statement has been derived from the properties of the individual components.

Assessment biodegradation and elimination (H2O)

Information on: beta-Carotene
Not readily biodegradable (by OECD criteria). Moderately/partially biodegradable.

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Elimination information

Information on: beta-Carotene
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)

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Bioaccumulative potential

Bioaccumulation potential
No data available.

Mobility in soil
Assessment transport between environmental compartments

Information on: beta-Carotene

Adsorption to solid soil phase is expected.

13. Disposal considerations

Waste disposal of substance:
Dispose of in accordance with local authority 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:
Food DSL, CA released / exempt
Chemical DSL, CA released; restriction on quantity / not listed

16. Other Information

SDS Prepared by:
BASF NA Product Regulations
SDS Prepared on: 2017/02/06

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.

END OF DATA SHEET