

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



## Apocarotenal 10% WS/N

0487376

Version 3.1

Revision Date 12.12.2014

Print Date 31.07.2019

### 1. Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifier

Trade name : Apocarotenal 10% WS/N

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

Use of the Substance/Mixture : Colouring agent for food and pharmaceutical products

#### 1.3 Details of the supplier of the safety data sheet

Company : DSM Nutritional Products Europe Ltd  
PO Box 2676  
CH-4002 Basel  
Telephone : +41618157777  
Telefax : +41618157770  
E-mail address : sds.nutritionalproducts@dsm.com  
Responsible/issuing person

#### 1.4 Emergency telephone number

+41 848 00 11 77 (Carechem 24 International)

### 2. Hazards identification

#### 2.1 Classification of the substance or mixture

##### Classification (REGULATION (EC) No 1272/2008)

Skin sensitisation, Category 1 H317: May cause an allergic skin reaction.

##### Classification (67/548/EEC, 1999/45/EC)

Sensitising R43: May cause sensitisation by skin contact.

#### 2.2 Label elements

##### Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



Signal word : Warning

Hazard statements : H317 May cause an allergic skin reaction.

Precautionary statements : **Prevention:**  
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.  
P272 Contaminated work clothing should not be allowed out of the workplace.  
P280 Wear protective gloves.  
**Response:**  
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.  
P363 Wash contaminated clothing before reuse.  
**Disposal:**

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P501

Dispose of contents/ container to an approved waste disposal plant.

Hazardous components which must be listed on the label:

1107-26-2

8'-apo- $\beta$ -caroten-8'-al

10191-41-0

3,4-dihydro-2,5,7,8-tetramethyl-2-(4,8,12-trimethyltridecyl)-2H-benzopyran-6-ol (dl- $\alpha$ -tocopherol)**2.3 Other hazards**

Risk of dust explosion.

**3. Composition/information on ingredients**

Brief description of the product : Mixture (preparation) containing active ingredient and auxiliary substances

**3.2 Mixtures****Hazardous components**

Chemical Name	CAS-No. EC-No. Registration number	Classification (67/548/EEC)	Classification (REGULATION (EC) No 1272/2008)	Concentration [%]
8'-apo- $\beta$ -caroten-8'-al	1107-26-2 214-171-6	R43 R53	Skin Sens. 1B; H317 Aquatic Chronic 4; H413	>= 10 - < 15
6-O-palmitoylascorbic acid (L-ascorbyl palmitate)	137-66-6 205-305-4	R52-R53	Eye Irrit. 2; H319 Aquatic Chronic 3; H412	>= 5 - < 10
3,4-dihydro-2,5,7,8-tetramethyl-2-(4,8,12-trimethyltridecyl)-2H-benzopyran-6-ol (dl- $\alpha$ -tocopherol)	10191-41-0 233-466-0	R43 R53	Skin Sens. 1B; H317 Aquatic Chronic 4; H413	>= 1 - < 5

For the full text of the R-phrases mentioned in this Section, see Section 16.

For the full text of the H-Statements mentioned in this Section, see Section 16.

**Further ingredients**

Chemical Name	CAS-No. EC-No. Registration number	Classification	GHS Classification	Concentration [%]
<b>sucrose</b>	<b>57-50-1</b> <b>200-334-9</b>			>= 15 - <= 40
Starch	9005-25-8 232-679-6			>= 15 - <= 40

**4. First aid measures****4.1 Description of first aid measures**

General advice

: Move out of dangerous area.  
Show this safety data sheet to the doctor in attendance.

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- If inhaled : Move to fresh air.  
Consult a physician after significant exposure.
- In case of skin contact : Take off contaminated clothing and shoes immediately.  
Wash off with soap and plenty of water.  
If symptoms persist, call a physician.
- In case of eye contact : Flush eyes with water as a precaution.  
Remove contact lenses.  
Protect unharmed eye.  
Keep eye wide open while rinsing.  
If eye irritation persists, consult a specialist.
- If swallowed : Clean mouth with water and drink afterwards plenty of water.  
Do not give milk or alcoholic beverages.  
Never give anything by mouth to an unconscious person.  
Obtain medical attention.

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

- Symptoms : No specific symptoms known.

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

- Treatment : Treat symptomatically.

## 5. Firefighting measures

### 5.1 Extinguishing media

- Suitable extinguishing media : Water  
Foam

### 5.2 Special hazards arising from the substance or mixture

- Specific hazards during firefighting : None known.

### 5.3 Advice for firefighters

- Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.  
Further information : Consider dust explosion hazard.

## 6. Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

- Use personal protective equipment.  
Ensure adequate ventilation.  
Avoid dust formation.  
Avoid breathing dust.

### 6.2 Environmental precautions

- Try to prevent the material from entering drains or water courses.

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### 6.3 Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust.

### 6.4 Reference to other sections

For personal protection see section 8.  
For disposal considerations see section 13.

## 7. Handling and storage

### 7.1 Precautions for safe handling

Advice on safe handling : Avoid contact with skin and eyes.  
For personal protection see section 8.  
Smoking, eating and drinking should be prohibited in the application area.

Advice on protection against fire and explosion : Avoid dust formation.  
Provide appropriate exhaust ventilation at places where dust is formed.  
Take precautionary measures against static discharges.

### 7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Protect against light.  
Protect from humidity.  
: Keep container tightly closed and dry.  
Storage temperature : < 15 °C

### 7.3 Specific end use(s)

Specific use(s) : Not applicable

## 8. Exposure controls/personal protection

### 8.1 Control parameters

Components	CAS-No.	Value (Form of exposure)	Control parameters	Update	Basis
sucrose	57-50-1	TWA	10 mg/m <sup>3</sup>	2005-04-06	GB EH40
		STEL	20 mg/m <sup>3</sup>	2005-04-06	GB EH40
Starch	9005-25-8	TWA (inhalable dust)	10 mg/m <sup>3</sup>	2011-12-01	GB EH40
		TWA (Respirable dust)	4 mg/m <sup>3</sup>	2011-12-01	GB EH40
	:	The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m <sup>-3</sup> 8-hour TWA of inhalable dust or 4 mg.m <sup>-3</sup> 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limit.			
8'-apo-β-caroten-8'-al	1107-26-2	TWA	1,0 mg/m <sup>3</sup>		DSM Internal Limit

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## 8.2 Exposure controls

### Personal protective equipment

- Respiratory protection : In the case of dust or aerosol formation use respirator with an approved filter.
- Hand protection : Glove material: for example nitrile rubber  
: Consider the hazard characteristics of this product and any special workplace conditions when selecting the appropriate type of protective gloves.
- Eye protection : Safety glasses with side-shields
- Skin and body protection : Choose body protection according to the amount and concentration of the dangerous substance at the work place.
- Hygiene measures : Handle in accordance with good industrial hygiene and safety practice.  
Wash hands before breaks and at the end of workday.

## 9. Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

- Appearance : free flowing particles
- Colour : violet - brown
- Odour : No information available.
- Odour Threshold : No information available.
- pH : No data available
- Melting point/range : not determined
- Boiling point/boiling range : not determined
- Flash point : Not applicable
- Flammability (solid, gas) : May form combustible dust concentrations in air
- Vapour pressure : Not applicable
- Relative vapour density : Not applicable
- Density : not determined
- Water solubility : ( $\geq 25$  °C)dispersible
- Partition coefficient: n-octanol/water : Not applicable
- Auto-ignition temperature : No data available
- Thermal decomposition : Decomposes on heating.  
Potential for exothermic hazard
- Explosive properties : No data available
- Oxidizing properties : No data available

### 9.2 Other information

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Combustibility index for deposited dust	: 4 ( 22 °C)
Dust explosion class	: St(H)1 (Milled sample, Median value of the tested sample 0,103 mm, Loss on drying 3 %; The value was determined in the modified Hartmann tube.)
Minimum ignition energy	: 10 - 30 mJ (Milled sample, Median value of the tested sample 0,103 mm, Loss on drying 3 %, EN 13821) The Minimum ignition energy (MIE) of a dust/air mix depends on the particle size the water content and the temperature of the dust. The finer and the dryer the dust the lower the MIE.  : General remark: The indicated dust explosion characteristics are only valid for this product and are sensitive to the sample's parameters.
Powder volume resistivity	: ca. 6E+11 Ohmm (Product sample, Median value of the tested sample 0,35 mm, Loss on drying 3,3 %) The material can accumulate static charge and can therefore cause electrical ignition.
Minimum ignition temperature of a dust/air mix	: 330 °C (Median value of the tested sample 0,35 mm) determined in the BAM oven

## 10. Stability and reactivity

### 10.1 Reactivity

No hazards to be specially mentioned.

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

Dust may form explosive mixture in air.

### 10.4 Conditions to avoid

Heat.

### 10.5 Incompatible materials

Strong acids and strong bases  
Strong oxidizing agents

### 10.6 Hazardous decomposition products

No decomposition if used as directed.

## 11. Toxicological information

### 11.1 Information on toxicological effects

Acute oral toxicity : LD50 (Rat): > 2 000 mg/kg  
(OECD Test Guideline 423)

Skin corrosion/irritation : Prolonged skin contact may cause skin irritation.

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Serious eye damage/eye irritation	: Dust contact with the eyes can lead to mechanical irritation.
Respiratory or skin sensitisation	
8'-apo- $\beta$ -caroten-8'-al	: Causes sensitisation. (Mouse, Local Lymph Node Assay (LLNA), OECD Test Guideline 429)
3,4-dihydro-2,5,7,8-tetramethyl-2-(4,8,12-trimethyltridecyl)-2H-benzopyran-6-ol	: no photoallergenic skin reaction (Guinea pig, OECD Test Guideline 432)
	: Causes sensitisation. (Guinea pig, Maximisation Test (GPMT), OECD Test Guideline 406)
Genotoxicity in vitro	: No indication for mutagenicity known.
Carcinogenicity	: No indication for carcinogenicity known.
Reproductive toxicity	: No indication for adverse effects on fertility known.
STOT - repeated exposure	
8'-apo- $\beta$ -caroten-8'-al	: NOAEL (Oral, Rat) : 10 mg/kg bw/d Sub-chronic toxicity study (90-day) (OECD Test Guideline 408)
Further information	
8'-apo- $\beta$ -caroten-8'-al	: May cause skin discolorations.

## 12. Ecological information

### 12.1 Toxicity

Toxicity to fish	
6-O-palmitoylascorbic acid	: <i>Salmo gairdneri</i> (rainbow trout) LC50 (96 h) 51 mg/l suspension

No data is available on the product itself.

### 12.2 Persistence and degradability

Biodegradability	
8'-apo- $\beta$ -caroten-8'-al	: Inherently biodegradable. 88 % (28 d) (OECD Test Guideline 302C) suspension
6-O-palmitoylascorbic acid	: Inherently biodegradable. 48 % (28 d) (OECD Test Guideline 302C)

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suspension

3,4-dihydro-2,5,7,8-tetramethyl-2-(4,8,12-trimethyltridecyl)-2H-benzopyran-6-ol : Not readily biodegradable.  
8 % (28 d)  
(OECD Test Guideline 301F)

No data is available on the product itself.

### 12.3 Bioaccumulative potential

Bioaccumulation : No data available  
Partition coefficient: n-octanol/water : Not applicable

### 12.4 Mobility in soil

Distribution among environmental compartments : No data available

### 12.5 Results of PBT and vPvB assessment

Assessment : not determined

### 12.6 Other adverse effects

Additional ecological information : There is no data available for this product.

## 13. Disposal considerations

### 13.1 Waste treatment methods

Product : Do not contaminate ponds, waterways or ditches with chemical or used container.  
Do not dispose of waste into sewer.  
Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging : Dispose of as unused product.  
Do not re-use empty containers.

## 14. Transport information

### 14.1 UN number

**ADR**  
Not dangerous goods  
**RID**  
Not dangerous goods  
**IMDG**  
Not dangerous goods  
**IATA**  
Not dangerous goods

### 14.2 Proper shipping name

**ADR**  
Not dangerous goods  
**RID**  
Not dangerous goods  
**IMDG**



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Not dangerous goods

**IATA**

Not dangerous goods

### 14.3 Transport hazard class

**ADR**

Not dangerous goods

**RID**

Not dangerous goods

**IMDG**

Not dangerous goods

**IATA**

Not dangerous goods

### 14.4 Packing group

**ADR**

Not dangerous goods

**RID**

Not dangerous goods

**IMDG**

Not dangerous goods

**IATA**

Not dangerous goods

### 14.5 Environmental hazards

**ADR**

Not dangerous goods

**RID**

Not dangerous goods

**IMDG**

Not dangerous goods

**IATA**

Not dangerous goods

### 14.6 Special precautions for user

Not classified as dangerous in the meaning of transport regulations.

### 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No data available

## 15. Regulatory information

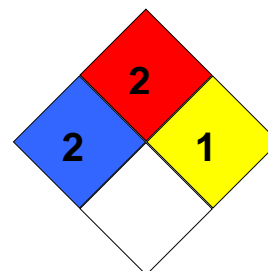
### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

**NFPA Classification**

: Health hazard: 2

Fire Hazard: 2

Reactivity Hazard: 1



### 15.2 Chemical Safety Assessment

Not applicable

**16. Other information****Full text of R-phrases referred to under sections 2 and 3**

R43	May cause sensitisation by skin contact.
R52	Harmful to aquatic organisms.
R53	May cause long-term adverse effects in the aquatic environment.

**Full text of H-Statements referred to under sections 2 and 3.**

H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H412	Harmful to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

**Abbreviations:** 67/548/EEC= Dangerous Substances Directive. 1999/45/EC= Dangerous Preparations Directive. Regulation (EC) No. 1272/2008= Regulation on classification, labelling and packaging of substances and mixtures. DNEL= Derived No-Effect Level. PNEC= Predicted No-Effect Concentration. NFPA= National Fire Protection Association (USA). IATA= International Air Transport Association. IMDG= International Maritime Dangerous Goods. RID= International Rule for Transport of Dangerous Substances by Railway; ADR= European Agreement concerning the International Carriage of Dangerous Goods by Road. TWA= Time Weighted Average. STEL= Short term exposure limit. WEL = Workplace Exposure Limit.