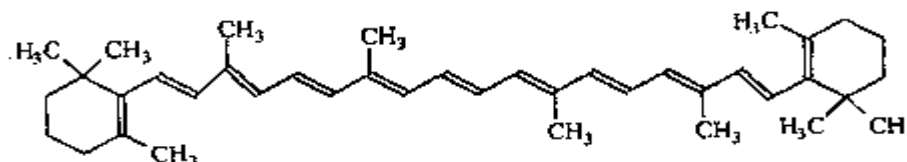


<b>PRODUCT NAME</b>	β-CAROTENE POWDER 1% CWS		
<b>PRODUCT CODE</b>	BC-060320	<b>VERSION NUMBER</b>	60000101

## 1.SPECIFICATION

**Product Description:** β-carotene powder 1% CWS is a yellow or orange , free-flowing powder. Manufactured by spray drying adopting the advanced microencapsulation technology . The individual particles containing β-carotene are finely dispersed in starch-coated carbohydrates ,dl- α -tocopherol and ascorbyl palmitate are added as antioxidants. As a yellow-orange colouring agent or as a nutrient for drink, sweet, milk products, cookies, ice-cream, etc., also used for tablet, effervescent granules, hard-shell capsule preparations.

**Chemical structure:**



Chemical Formula : C<sub>40</sub>H<sub>56</sub>    Molecular Weight : 536.85g/mol

**Specifications:**

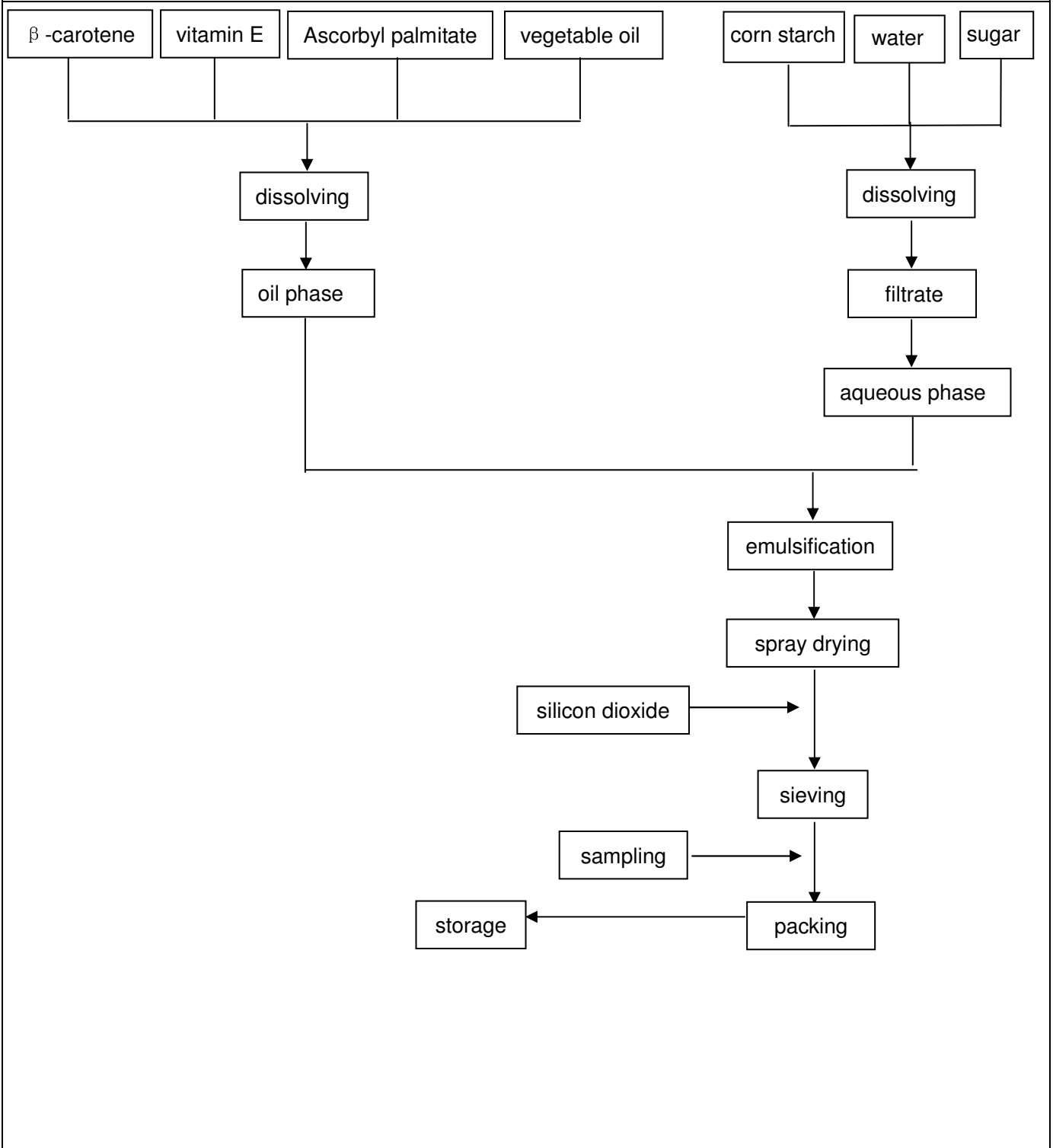
Description	yellow or orange ,free-flowing powder
Lose on drying	≤ 8.0%
Heavy metals(as Pb)	≤ 0.002%
Arsenic	≤ 0.0003%
Colour intensity of aqu.dispersion	≥ 20
A <sup>1%</sup> <sub>1cm</sub> at maximun	
Assay	≥ 1.0%
Microbial test	
Bacteria	≤ 1000cfu/g
Fungi and yeasts	≤ 100cfu/g
Enterobacteriaceae	< 30 MPN/100g

**Storage:** The product may be stored for 18 months from the date of manufacture in the unopened original container. Keep container tightly closed under cool and light proof conditions. Once opened, use contents quickly.

**Package:** 5kg/ Aluminium Bag, 20kg/Carton.

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## 2.FLOW CHART





<b>PRODUCT NAME</b>	β-CAROTENE POWDER 1% CWS		
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### 3.INGREDIENTS SHEET

β-Carotene Pure	1.0%
Vegetable Oil	12.0%
Sugar	30.0%
Corn Starch	52.0%
Ascorbyl Palmitate	2.0%
Vitamin E	2.0%
Silicon Dioxide	1.0%

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#### 4.NUTRITION FACTS

Energy (kJ)	1746
Protein (g/100g)	0.98
Carbohydrate (g/100g)	70
Of which sugars	/
Fat	15
Of which saturates	1.88
Dietary Fibre	0.08
Sodium (g/100g) (Declare to 3 decimal places)	5.16
Moisture (g/100g)	/
Ash (g/100g)	/
Glucose (g/100g)	/
Fructose (g/100g)	/
Sucrose (g/100g)	/
Lactose (g/100g)	/
Alcohol % v/v	/
Potassium (mg/100g)	6.55
Calcium (mg/100g)	14.74
Zinc (mg/100g)	0.07
Magnesium (mg/100g)	4.91
Acidity Level %	/
pH	/



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## 5.MSDS

### 1. Identification of the substance/preparation and of the company

Identification of the product

Product name: β-Carotene Powder 1% CWS

Manufacturer/supplier identification

Manufacturer: Zhejiang Medicine Co.,Ltd., Xinchang Pharmaceutical Factory

Emergency Phone: 0086-575-6126668

### 2. Composition/information on ingredients

β-carotene

Synonyms	β-carotene
CAS-No.	7235-40-7
Chemical Formula	C40H56
Molecular Weight :	536.85g/mol

Vegetable Oil

Sugar

Corn Starch

Ascorbyl Palmitate

Vitamin E

Silicon Dioxide

### 3. Hazards identification

Most important hazards - No particular hazards known.

### 4. First-aid measures

Skin contact	- brush off
Eye contact	- rinse immediately with tap water for 10 minutes - open eyelids forcibly
Inhalation	- remove the casualty to fresh air and keep him/her calm- consult physician
Note to physician	- treat symptomatically

### 5. Fire-fighting measures

Suitable extinguishing media - water spray, dry chemical, foam, CO2

Specific hazards - consider dust explosion hazard- formation of acrid smoke and respiratory irritant fumes when heated to decomposition \*1

Protection of fire-fighters -precipitate gases/vapours/mists with water spray



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## MSDS

### 6. Accidental release measures

Environmental protection - do not allow to enter drains or waterways \*1  
 - nontoxic and biodegradable, but very slow biodegradation due to low water solubility \*1  
 - strong dyeing effect \*1

Methods for cleaning up - collect solids (avoid dust formation) and hand over to waste removal

### 7. Handling and storage

#### Handling

Technical measures - processing in closed systems  
 - avoid dust formation; consider dust explosion hazard  
 - take precautionary measures against electrostatic charging  
 - local exhaust ventilation necessary

Suitable materials - stainless steel, aluminium, glass, polyethylene, enamel

#### Storage

Storage conditions - cool  
 - protected from light  
 - protected from humidity

Validity - 18 months, 5 to 15 °C, in the unopened original container, see "best use before" date stated on the label, after opening the container, the contents should be used within a short period

Packaging materials - tightly closing; material: stainless steel, aluminium, glass, polyethylene

### 8. Exposure controls/personal protection

Respiratory protection -respiratory protection not necessary during normal operations- in case of very high dust concentrations: particle mask or respirator with independent air supply

Hand protection - protective gloves

Eye protection - safety glasses

Remarks - strong skin discolouration on contact \*1

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## MSDS

### 9. Physical and chemical properties

Colour	- yellow
Form	- fine powder
Odour	- none to faint
Solubility	- dispersible, cold water (20 °C)
Note	- in aqueous dispersion yellow

### 10. Stability and reactivity

Stability	- stable under the conditions mentioned in chapter 7
Conditions to avoid	- air - warming - light - humidity
Materials to avoid	- atmospheric oxygen, oxidizing agents, strong acids, strong bases, reducing agents, metal salts, compounds rich in oxygen *1
Note	- autooxidation in the presence of atmospheric oxygen *1

### 11. Toxicological information

Acute toxicity	-LD50 > 20'000 mg/kg (oral, rat)	*1
	- LD50> 20'000 mg/kg (oral, mouse)	*1
	- LD50> 16'300 mg/kg (oral, rat)	*2
	- LD50 > 4'000 mg/kg (oral, mouse)	*3
Mutagenicity	-not mutagenic (various in vivo and in vitro test systems) * 1	
Carcinogenicity	-not carcinogenic (several species)	*1
Reproduction toxicity	- not teratogenic, not embryotoxic (several species) *1	
Note	-carotene is metabolised to vitamin A only in the physiologically required quantities (man); there areno indications of teratogenic effects nor reservations regarding hypervitaminosis A	*1
	- GRAS (generally recognized as safe for human consumption)	*1
	- GRAS (generally recognized as safe for human consumption)	*2
	- GRAS (generally recognized as safe for human consumption)	*3
	- GRAS (generally recognized as safe for human consumption)	*5
	- foodstuff, harmless at normal use	*4
	- no toxic effects have been observed during occupational handling	

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## MSDS

### 12. Ecological information

Inherent biodegradability	- inherently biodegradable slow biodegradation due to low water solubility 100 %, 28 d (MITI Test II, OECD No. 302 C)	*1
Ecotoxicity	-barely toxic for fish (rainbow trout) NOEL 1000 mg/l	*1
	-barely toxic for microorganisms (activated sludge) NOEL (28 days) 30 mg/l (MITI Test II, OECD No. 302C)	*1
Air pollution	- observe local/national regulations	
Note	- edible fats and oils have a high specific biochemical oxygen demand; they are generally well biodegradable considering their low water solubility	*4
	- starch is not toxic for fish	*5

### 13. Disposal considerations

Waste from residues	- incinerate in qualified installation with flue gas scrubbing - observe local/national regulations regarding waste disposal
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### 14. Transport information

Note	- not classified by transport regulations
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### 15. Other information

Use	- as a yellow colourant for food and pharmaceutical preparations
Biological activity	- 1 I.U. (International Unit) of provitamin A corresponds to the activity of 0.60 µg purest crystalline β-carotene *1 - 1 R.E. (Retinol Equivalent) corresponds to 6 µg of purest β-carotene *1

*1	referring to:	β-Carotene
*2	referring to:	Ascorbyl palmitate
*3	referring to:	Vitamin E
*4	referring to:	Vegetable oil
*5	referring to:	Starch
*6	referring to:	Silicon Dioxide