GB

NATIONAL STANDARD OF THE

PEOPLE'S REPUBLIC OF CHINA

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National Food Safety Standard - Food Additives - Zeaxanthin

食品安全国家标准 食品添加剂 玉米黄

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National Food Safety Standard - Food Additives - Zeaxanthin

1 Scope

This Standard is applicable to corn and/or food additive of zeaxanthin that takes the corn as raw materials, and is prepared through extracting and concentrating the extraction solvents of vegetable oil.

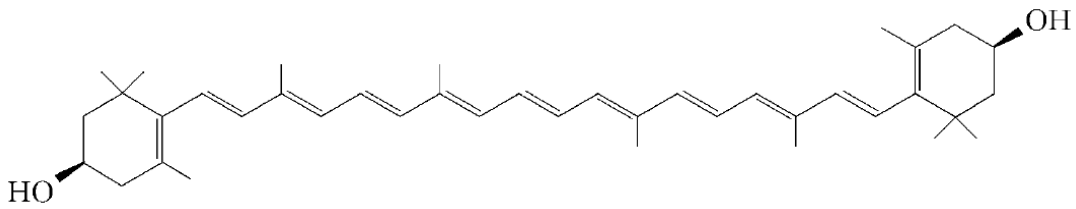
2 Chemical Name of Main Components, Molecular Formula, Structural Formula and Relative Molecular Mass

2.1 Molecular formula

Zeaxanthin: $C_{40}H_{56}O_2$

2.2 Structural formula

Zeaxanthin:



2.3 Relative molecular mass

Zeaxanthin: 568.87 (as per 2016 international relative atomic mass)

3 Technical Requirements

3.1 Sensory requirements

The sensory requirements shall comply with the provisions of Table 1.

Appendix A

Inspection Methods

A.1 General provisions

If no other requirements are specified, all the reagents and water used in this Standard refer to the analytical reagents and Class-III water specified in GB/T 6682. If no other requirements are specified, all the standard solution used in the test, standard solution for determining the impurity, preparation and product shall be prepared according to the provisions of GB/T 601, GB/T 602, GB/T 603.The solution used in the test refers to the aqueous solution when the solvent is not specified.

A.2 Identification test

Take an appropriate amount of specimen and dissolve it in chloroform. The specimen solution shall have a maximum absorption peak in the wavelength range of 455nm ± 10nm.

A.3 Determination of colour value

A.3.1 Reagents and materials

Chloroform.

A.3.2 Apparatus

Ultraviolet-visible spectrophotometer.

A.3.3 Analysis procedures

Accurately weigh 0.1g of specimen (accurate to 0.0001g), dissolve it by chloroform; transfer to a 100mL volumetric flask; add chloroform to make constant volume to the mark; and shake well. Use this solution as a specimen solution; place it in a 1cm cuvette; use chloroform as a blank control; and use an ultraviolet-visible spectrophotometer to measure the absorbance (the absorbance shall be controlled at 0.3~ 0.7; otherwise, the concentration of the specimen solution shall be adjusted; and then the absorbance shall be re-measured) at the maximum absorption wavelength of 455nm±10nm.

A.3.4 Calculation of results

The colour value $E_{1cm}^{1\%}$ (455nm±10nm) is calculated according to Formula (A.1).

$$E_{1cm}^{1\%}(455\ \text{nm} \pm 10\ \text{nm}) = \frac{A}{c} \times \frac{1}{100} \quad \cdots\cdots (A.1)$$

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