



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB 1886.34-2015

Replacing GB 10783-2008

National Food Safety Standard -- Food Additives -- Paprika red

食品安全国家标准 食品添加剂 辣椒红

(English Translation)

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Foreword

This standard replaces GB 10783-2008 "Food Additives red pepper." this standard compared with GB 10783-2008, the main changes are as follows.

--- Standard name was changed to "national food safety standards for food additives red pepper." National Food Safety Standard Food Additives red pepper

1 Scope

This standard applies to chili (*Capsicum annuum* L.) peel and its products as raw material, extraction, filtration, concentration, removal of capsaicin Food additives and other craft made of red pepper.

2 Molecular formula, relative molecular mass and structural formula

Formula 2.1

Capsanthin. $C_{40}H_{56}O_3$ Capsorubin. $C_{40}H_{56}O_4$

2.2 Formula

Capsanthin.

Capsorubin.

2.3 Relative molecular mass

Capsanthin. 584.87 (according to 2007 international relative atomic mass) Capsorubin. 600.87 (according to 2007 international relative atomic mass)

3.1 Sensory requirements

Sensory requirements shall comply with the requirements of Table 1.

Table 1 Sensory requirements

Project requires test methods Dark red color State oily liquid Take appropriate sample in a clean, dry colorimetric tube, self Under natural light, visually observe its color and status

3.2 Physical and Chemical Indicators

Physical and chemical indicators should be consistent with the provisions of Table 2.

Table 2. Physical and chemical indicators

Item Index Test Method Absorbance E1 m460nm ≥ 50 Appendix A A.3 Arsenic (As)/(mg/kg) ≤ 3.0 GB 5009.76 Lead (Pb)/(mg/kg) ≤ 2.0 GB 5009.75 Hexane residues in/(mg/kg) ≤ 25 Appendix A A.4 the total residual organic solvents/(mg/kg) ≤ 50 Appendix A A.4 Capsaicin, w/(%) claim to comply with Appendix A A.5 Note. The red pepper commercialized product shall comply with the standard red pepper as raw material, add edible dextrin, antioxidants and other accessories made of. Commercialization Red pepper products can be added to adjust the color value of edible oil.

Appendix A

Testing method

A.1 General Provisions this standard reagents and water, did not indicate when the other requirements, refer to analytical reagent and third grade water GB/T 6682 regulations.

Standard solutions used in the tests, impurity standard solution, preparations and products, did not indicate when the other requirements, according to GB/T 601, GB/T 602 and the provisions of GB/T 603 formulation. Solution was used in the tests did not indicate what is formulated with solvent, it refers to an aqueous solution.

A.2 Identification Test A.2.1 solubility Soluble in ethanol, soluble in vegetable oils, acetone, ether, chloroform, almost insoluble in water, soluble in glycerol.

A.2.2 color reaction Add 2 drops of ~ 1 drop 3 drops of the sample in chloroform and one drop of sulfuric acid, should be rendered dark blue.

A.2.3 absorption maxima Samples were dissolved in n-hexane at about 470nm of maximum absorption.

A.3 measured absorbance A.3.1 Reagents and materials acetone.

A.3.2 Instruments and Equipment Spectrophotometer, with a 1cm cuvette.

A.3.3 Analysis step

Weigh accurately a quantity of the sample (depending on the color sample price level adjusted appropriately) (accurate to 0.0002g), diluted with acetone 100mL flask, and then draw precise dilute solution 10mL, diluted to 100mL, using a spectrophotometer at 460nm wavelength, with acetone as a reference solution, absorbance was measured at 1cm cuvette.

Note: The ratio of the measured absorbance of the color range of liquid should be controlled within a range of 0.30 to 0.70.

A.3.4 Calculation Results Absorbance $E_{1\text{ m}460\text{nm}}$, according to equation (A.1) Calculated.

$E_{1\text{ m}460\text{nm}} =$

$m \times 100$

Where.

A --- measured absorbance of the sample solution;

f --- dilution factor;

m --- sample mass, in grams (g);

100 --- conversion factor.

The results parallel arithmetic mean of the measurement results shall prevail.

A.4 Determination of residues of hexane and the total residual organic solvents
Determination method according to GB/T 5009.37-2003 specified in 4.8.

A.5 Determination of capsaicin A.5.1 Reagents and materials Methanol solution. 73.

A.5.2 Instruments and Equipment A.5.2.1 grinding mouth Erlenmeyer flask.

A.5.2.2 funnel.

A.5.2.3 Spectrophotometer. with a quartz cuvette and deuterium lamp.

A.5.3 Analysis step

Weigh accurately approximately 5.00g in 300mL sample grinding mouth Erlenmeyer flask, accurate solution was added 100mL of methanol, shaking 30min. Standing 5min After filtration, the filtration funnel cover, to prevent evaporation. Filtrate was discarded early 25mL, after remaining filtrate mix, prepared according to the requirements of Table A.1 Test solution.

Table A.1 Preparation of test solution

Item 1

Water/mL 17.80 16.80 19.00 18.00 1mol/LHCl/mL 1.00 - 1.00 -1mol/LNaOH/mL - 2.00 - 2.00 Found A1 A2 A3 A4 4 bottles of test solution were used to set the volume to 100mL of

methanol and shaken at 248nm and 296nm were measured at four solutions of Absorbance A1, A2, A3, A4, A'1, A'2, A'3, A'4.

A.5.4 Calculation Results A.5.4.1 248nm at capsaicin sample mass fraction w, according to equation (A.2) Calculated.

$[(A_2 - A_1) - (A_4 - A_3)] \times 2500 \times m$ (A.2) A.5.4.2 296nm at capsaicin sample mass fraction w1, according to equation (A.3) Calculated.

$[(A'_2 - A'_1) - (A'_4 - A'_3)] \times 2500 \times m$ (A.3) Formula (A.2) and formula (A.3) The results do not differ by more than 10%.