

ICS 67.220.20
CCS C 54;X40



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

GB 28311-2012

Food additives -- Gardenia blue

食品添加剂 栀子蓝

(English Translation)

Issued on: April 25, 2012

Implemented on: June 25, 2012

Issued by: Ministry of Health of the People's Republic of China

Table of Contents

1 Scope

2 Technical requirements

1 Scope

This standard applies to gardenia (*Gardenia jasminoides* Ellis) fruit as raw material, by water or edible ethanol extraction, enzymatic hydrolysis (beta-glucosidase), add edible amino acid compounds, refined and other processes made of food additives gardenia blue.

2 Technical requirements

2.1

sensory requirements. should be consistent with the provisions of Table 1.

Table 1 sensory requirements

The project requires a test method Odor slightly aromatic aroma Color blue to dark purple blue State powder, granular or liquid Take appropriate sample in a clean, dry white porcelain dish Under natural light, observe its color and state, and smell its smell

2.2

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

Table 2 Physical and chemical indicators

project

index

Powder, granular liquid Testing method Color Price E1 m (580 ~ 620) nm Compliant in Appendix A A.3 Dry reduction, w / % ≤ 7 - GB 5009.3 direct drying method Lead (Pb)/(mg/kg) ≤ 3 3 GB 5009.12 Total arsenic (in As)/(mg/kg) ≤ 2 2 GB/T 5009.11 Note. Commercialized gardenia blue products should be in line with this standard gardenia blue as raw material, can add edible dextrin and (or) lactose and made, the color price claim.

Appendix A

Testing method

A.1 General provisions the reagents and water used in this standard refer to the pure reagent and the tertiary water specified in GB/T 6682 when no other requirements are specified.

Standard titration solution used in the analysis, the standard solution for the determination of impurities, preparations and products, in the absence of other requirements, according to GB/T 601, GB/T 602, GB/T 603. The solution used in this test does not specify what kind of solvent preparation, refers to the aqueous solution.

A.2 Identification test A.2.1 Reagents and materials A.2.1.1 0.2mol/L disodium hydrogen phosphate solution. accurately charged disodium hydrogen phosphate ($\text{Na}_2\text{HPO}_4 \cdot 12\text{H}_2\text{O}$), 71.64g, with water volume to 1000 mL.

A.2.1.2 0.1mol/L citric acid solution. accurately weigh 21.01g of citric acid ($\text{C}_6\text{H}_8\text{O}_7 \cdot \text{H}_2\text{O}$), and set the volume to 1000mL with water.

A.2.1.3 pH7.0 Citric acid buffer. 0.2mol/L disodium hydrogen phosphate solution 16.47mL With 0.1mol/L citric acid solution 3.53 mL mix.

A.2.1.4 sodium hypochlorite solution. available chlorine content of 4% or more.

A.2.2 Analysis steps A.2.2.1 Maximum absorption wavelength Take A.3.2 color determination of gardenia blue sample solution, with a spectrophotometer detection, the wavelength between 580nm ~ 620nm should have the largest Absorption peak.

A.2.2.2 Color response Preparation of 0.1% sample solution with pH7.0 citrate buffer should be blue.

A.2.2.3 Fading reaction Take 0.1% of the sample solution 5mL, add hydrochloric acid 1 to 2 drops, plus more than 4% of available chlorine sodium hypochlorite solution 1 to 3 drops, should be faded.

A.3 Determination of color price A.3.1 Instruments and equipment Spectrophotometer.

A.3.2 Analysis steps Weigh about 0.2g sample, accurate to 0.0001g, dissolved in water, transferred to 100mL volumetric flask, add water to constant volume, shake, and then absorb 10mL, transferred to 100mL volumetric flask, add water to the volume, shake. Take this sample solution in a 1cm cuvette, the absorbance was measured at a maximum absorption wavelength of 580 nm to 620 nm using a spectrophotometer. (Absorbance should be controlled in the 0.3 to 0.7, or should adjust the concentration of sample solution, and then re-measured absorbance.) A.3.3 Calculation of results the color of the test sample concentration of 1%, with 1cm cuvette, in the range of 580nm ~ 620nm maximum absorption wavelength measured Absorbance $E_{1\text{ m}}$ (580 ~ 620) nm, calculated according to formula (A.1).

$E_{1\text{ m}}$ (580 ~ 620) nm = $A_c \times (A.1)$ where.

A - the absorbance of the test solution;

c - the value of the test solution concentration in grams per milliliter (g/mL);

100 --- concentration conversion factor.

The experimental results are based on the arithmetic mean of the parallel measurement results. The absolute difference between the two independent determinations obtained under repeatability conditions Value should not exceed 2%.