

ICS 67.220.20

CCS X 42



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

GB 17512.1-2010

Replacing GB 17512.1-1998

National food safety standards -- Food additives -- Erythrosine

食品添加剂 赤藓红

(English Translation)

Issued on: December 21, 2010

Implemented on: February 21, 2011

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

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Foreword

This standard replaces GB 17512.1-1998 "food additive erythrosine." this standard compared with GB 17512.1-1998, the main changes are as follows.

- Added safety tips;
- Modify the discrimination test methods;
- Colorimetric method allows parallel determination by the difference of 2.0% revised to 1.0%;
- Modify the detection of chloride and sulfate;
- Arsenic (As) is modified by chemical detection methods limit law atomic absorption spectrometry;
- Cancel the heavy metals (Pb) quality specifications;
- Increase the lead (Pb) indicator and detection methods;
- An increase of zinc (Zn) indicators and detection methods.

Appendix A of this standard is a normative appendix, Appendix B is an informative annex.

This standard replaces the standards previously issued as follows.

--GB 17512.1-1998.

National Food Safety Standard Food Additives erythrosine

1 Scope

This standard applies to fluorescent yellow after iodized prepared food additive erythrosine.

2 Normative references

The standard file referenced in the application of this standard is essential. For dated references, only the edition date of the note Apply to this standard. For undated references, the latest edition (including any amendments) applies to this standard.

3.1 Chemical Name

9- (o- carboxyphenyl) -6-hydroxy-2, 4, 5, 7 tetraiodobisphenol -3H- xanthene-3-one disodium salt monohydrate

3.2 Formula

NaO

COONa

H₂O

Formula 3.3

C₂₀H₆I₄Na₂O₅ · H₂O

3.4 Relative molecular mass

897.87 (according to 2007 international relative atomic mass)

4 Technical Requirements

4.1

Sensory requirements. comply with Table 1.

Table 1 Sensory requirements

Project requires test methods Red to dark brown color by visual assessment of natural light.

State organization powders or granules

4.2

Physical indicators. to comply with Table 2.

Table 2. Physical and chemical indicators

Item Index Test Method Erythrosine, w /% ≥ 85.0 Appendix A A.4 Loss on drying, chloride (based on NaCl) and sulfate (NaSO₄ in dollars) of the total, w /% ≤ 14.0 Appendix A A.5

Water-insoluble, w /% ≤ 0.20 A.6 in Appendix A Deputy dye, w /% ≤ 3.0 Appendix A A.7 Sodium iodide, w /% ≤ 0.40 Appendix A A.8 Arsenic (As)/(mg/kg) ≤ 1.0 A.9 in Appendix A Lead (Pb)/(mg/kg) ≤ 10.0 Appendix A A.10 Zinc (Zn)/(mg/kg) ≤ 20.0 A.11 Appendix A Appendix A (Normative) Testing method A.1 Safety Tips Reagents The standard test methods used for toxic or corrosive, according to the relevant provisions of the operation, the operation need to be careful. If splash on the skin should immediately wash with water, severe cases should be treated immediately. When using a volatile acid, to be carried out in a fume hood.

A.2 General Provisions this standard reagents and water, did not indicate when the other requirements, refer to the three water analytical reagent and GB/T 6682-2008 requirements.

Standard test solution required impurity standard solution, preparations and products at the time did not indicate other provisions, according to GB/T 601, GB/T 602, GB/T 603 regulations formulated and calibration.

A.3 Identification Test A.3.1 Reagents and materials A.3.1.1 sulfuric acid.

A.3.1.2 hydrochloric acid.

A.3.1.3 ammonium acetate solution. 1.5g/L.

A.3.2 Instruments and Equipment A.3.2.1 Spectrophotometer.

A.3.2.2 cuvette. 10mm.

A.3.3 Identification method it should meet the following conditions.

A.3.3.1 weighed sample of about 0.1g (accurate to 0.01g), was dissolved in 100mL of water, red clear solution. Take 5 mL was added 1 mL Hydrochloric acid, the resulting red precipitate.

A.3.3.2 weighed sample of about 0.2g (accurate to 0.01g), sulfuric acid dissolved in 20mL, brownish yellow, this take 2 drops to 3 drops of liquid, add water, 5 mL, Produces orange-red precipitate.

A.3.3.3 weighed sample of about 0.1g (accurate to 0.01g), was dissolved in 100mL ammonium acetate solution of this solution 1mL, plus ammonium acetate solution with to 100mL, wavelength of maximum absorption of the solution was 526 nm ± 2nm.

A.4 Determination erythrosine A.4.1 gravimetric method (Arbitration Act) A.4.1.1 Method summary After sample dissolution, dilution, acidification, boiled and filtered through constant, then constant, and then weighed to calculate.

A.4.1.2 Reagents and materials A.4.1.2.1 hydrochloric acid solution. 149.

A.4.1.2.2 hydrochloric acid solution. 1199.

A.4.1.3 instruments and equipment A.4.1.3.1 oven thermostat.

A.4.1.3.2 sand core glass crucible. G4, a pore size of $5\mu\text{m} \sim 15\mu\text{m}$.

A.4.1.4 analysis step Weigh about 2.5g sample (accurate to 0.0001g), placed in a beaker, dissolved in water transferred to 250mL volumetric flask, dilute to the mark, Shake well. The draw 50mL solution, placed in the 250 mL beaker, heated to boiling, a solution of 20 mL of hydrochloric acid (149), boiled again Boiling, then rinse with 5 mL of water inside of the beaker, covered with a watch glass and heated on a boiling water bath for about 5h later, allowed to cool to room temperature, it has been at $135\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$ drying to constant weight, and weighed to cool the G4 sintered glass crucible, the precipitate was filtered. Then each 15mL hydrochloric acid solution (1199) After rinsing and washed twice, and then 15mL washed once with water and the precipitate G4 sintered glass crucible was baked at $135\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$ thermostatic drybox to constant, 30min after cooling in a dryer and weigh.

A.4.1.5 Calculation Results Erythrosine mass fraction 1w its value is expressed in%, according to formula (A.1) Calculated.

074.11

mw (A.1)

Where.

m1 - Numerical precipitate mass, in grams (g);

1.074 - transform coefficients;

m - mass of sample values in grams (g).

The results represent a decimal.

The absolute difference between the parallel determination results is not more than 0.2% (mass fraction), the arithmetic mean value as a measurement result.

A.4.2 Colorimetric method A.4.2.1 Method summary the samples with known content erythrosine standards were dissolved in water and diluted to volume with ammonium acetate solution, at the maximum absorption wavelength, Were measured absorbance, calculate its content.

A.4.2.2 Reagents and materials A.4.2.2.1 ammonium acetate solution. 1.5g/L.

A.4.2.2.2 erythrosine standard. $\geq 85.0\%$ (mass fraction, measured according to A.4.1).

A.4.2.3 instruments and equipment A.4.2.3.1 spectrophotometer.

A.4.2.3.2 cuvette. 10mm.

Preparation A.4.2.4 erythrosine standard solution Weigh about 0.25g (accurate to 0.0001g) erythrosine standard sample is dissolved in an appropriate amount of water, transferred to