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

GB 17512.2-2010

Replacing GB 17512.2-1998

**National food safety standards -- Food additives -- Erythrosine
aluminum lake**

食品添加剂 赤藓红铝色淀

(English Translation)

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Foreword

This standard replaces GB 17512.2-1998 "food additive erythrosine aluminum lake." this standard compared with GB 17512.2-1998, the main technical changes are as follows.

- Added safety tips;
- Modify the Test method for identification;
- Increase the spectrophotometric colorimetry parallel determination of allowable difference;
- Canceled Chloride (NaCl) and sulfate (Na₂SO₄ to count) indicators;
- Arsenic (As) is modified by chemical detection methods limit law atomic absorption spectrometry;
- Cancel the heavy metals (as Pb) indicator;
- Increase the lead (Pb) indicator and detection methods;
- Added control indicators and detection methods of zinc;
- Barium (Ba) detection method to modify the barium sulfate precipitation assay limits.

Appendix A of this standard is a normative appendix.

This standard replaces the standards previously issued as follows.

--GB 17512.2-1998.

National Food Safety Standard Food Additives erythrosine aluminum lake

1 Scope

This standard applies to food additives produced by the erythrosine and aluminum hydroxide additive effect erythrosine aluminum lake.

2 Normative references

The standard file referenced in the application of this standard is essential. For cited documents with dates, only the date of Version applies to this standard. For undated references, the latest edition (including any amendments) applies to this standard.

3 Formula and relative molecular mass

Formula 3.1

$C_{20}H_{61}Na_2O_5 \cdot H_2O$

3.2 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 color by visual assessment of natural light.

Organization Status powder

4.2

Physical indicators. to comply with Table 2.

Table 2. Physical and chemical indicators

Item Index Test Method Erythrosine (sodium salt dollars), w /% ≥ 10.0 Appendix A A.4
Loss on drying, w /% ≤ 30.0 Appendix A A.5 Hydrochloric acid and ammonia water
insolubles, w /% ≤ 0.5 A.6 in Appendix A Deputy dye, w /% ≤ 1.5 Appendix A A.7 Sodium
iodide, w /% ≤ 0.2 Appendix A A.8 Arsenic (As)/(mg/kg) ≤ 3.0 A.9 in Appendix A Lead
(Pb)/(mg/kg) ≤ 10.0 Appendix A A.10 Zinc (Zn)/(mg/kg) ≤ 50.0 A.11 Appendix A Barium
(Ba), w /% ≤ 0.05 Appendix A A.12 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 splashed 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 three analytical reagent and GB/T 6682-2008 specified water.
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 solution. 13.

A.3.1.3 sodium hydroxide solution. 90g/L.

A.3.1.4 ammonium acetate solution. 1.5g/L.

A.3.1.5 activated carbon.

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 Weigh about 0.1g sample, add 5mL of sulfuric acid, at 50 °C ~ 60 °C water bath shaken from time to time, about 5min when heated, the solution was Orange-red. After cooling, the supernatant take 2 to 3 drops of drops, add 5mL water, the solution was red.

A.3.3.2 Weigh about 0.1g sample, add 5mL sodium hydroxide solution was heated and dissolved in a water bath, add ammonium acetate solution equipped to 100mL, Centrifuged the solution is not clarified. Then take this solution 1mL ~ 10mL, plus ammonium acetate solution equipped to 100mL, the measurement of absorbance in the range of 0.2 to 0.7, a maximum absorption wavelength of this solution was 526 nm ± 2nm.

A.3.3.3 Weigh about 0.1g sample was added 10mL hydrochloric acid solution and heated in a water bath, so that most of the dissolved. Add 0.5g of activated carbon, charge Shake points after filtration. Take a colorless filtrate, add sodium hydroxide solution and after rendering aluminum reaction.

A.4 Determination erythrosine aluminum lake of A.4.1 Method summary After sample processing were dissolved in an aqueous medium or with known content erythrosine standards, diluted with ammonium acetate solution after constant volume, at the maximum absorption wavelength, were measured absorbance value, and then calculate the content.

A.4.2 Reagents and materials A.4.2.1 ammonia solution. 13.

A.4.2.2 ammonium acetate solution. 1.5g/L.

A.4.2.3 erythrosine standard. ≥85.0% (mass fraction, according to GB/T 17512.1-2010 A.4.1 Determination).

A.4.3 Instruments and Equipment A.4.3.1 Spectrophotometer.

A.4.3.2 cuvette. 10mm.

A.4.4 formulated erythrosine standard solution Weigh about 0.25g erythrosine standard

(accurate to 0.0001g), was dissolved in an appropriate amount of ammonium acetate solution, transferred to 1000mL volumetric flask, Diluted with water to the mark. Draw 10mL, transferred to 500mL volumetric flask, add ammonium acetate solution was diluted to the mark.

A.4.5 formulated erythrosine aluminum lake of the sample solution Weigh about 0.5g sample (accurate to 0.0001g), transferred to 250mL beaker, 150mL ammonia solution, stirring occasionally until the After dissolution transferred 500mL volumetric flask, dilute to the mark, shake. Draw 10mL transferred to 500mL volumetric flask, with ammonium acetate solution it was diluted to the mark.

A.4.6 Analysis step

Erythrosine standard solution and the sample solution erythritol red aluminum lake were placed in 10mm cuvettes, with the maximum absorption wavelength with points Light photometer respective absorbance values of ammonium acetate solution as reference solution.

A.4.7 Calculation Results Erythrosine aluminum lake mass fraction 1w its value is expressed in%, according to formula (A.1) Calculated.

$$1) \frac{500/10}{500/(\frac{500/10 \cdot 1000}{w})} \cdot m_{Aw} \cdot xx$$

Where.

A1 - absorbance values Erythrosine aluminum lake of the sample solution;

Quality value m0-- erythrosine standards, in units of grams (g);

0w - erythrosine standard mass fraction%;

Absorbance values A0-- erythrosine standard solution;

Quality value m1-- erythrosine aluminum lake sample in grams (g).

The results represent a decimal.

The absolute difference between the parallel determination results is not more than 1.0% (mass fraction), the arithmetic mean value as a measurement result.

A.5 Determination of loss on drying A.5.1 Analysis step Weigh about 2g sample (accurate to 0.001g), has been placed in the weighing bottle constant at 135 °C ± 2 °C constant temperature oven, in 135 °C ± 2 °C constant temperature oven drying to constant weight.

A.5.2 Calculation Results Loss on drying mass fraction to 2w and its value is expressed in%, according to formula (A.2) Calculated.