



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

GB 1903.5-2016

**National Food Safety Standard -- Food Nutrition Enhancer --
5-cytidine disodium**

食品安全国家标准

(English Translation)

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1 Scope

This Standard applies to the food nutrition enhancer: 5'-disodium cytidine.

2 Molecular formula, structural formula and relative

molecular mass

2.1 Molecular formula

C₉ H₁₂ N₃ Na₂ O₈ P

2.3 Relative molecular mass

367.16 (according to 2007 international relative atomic mass)

3.1 Sensory requirements

Sensory requirements shall comply with the provisions of Table 1.

Annex A

Test methods

A.1 General provisions

If no other requirements are indicated, the reagents and water used in this

Standard refer to analytical reagents and the tertiary water specified in GB/T

6682. If no other requirements are indicated, the standard solutions, impurity standard solutions, preparations required in the test are prepared in accordance with GB/T 601, GB/T 602 and GB/T 603. For the solutions used in the test, if it is not indicated which solvent is used to prepare, the solvent refers to aqueous solution.

A.2 Identification test

A.2.1 Reagents and materials

A.2.1.1 Hydrochloric acid.

A.2.1.2 Nitric acid.

A.2.1.3 Hydrochloric acid solution: 1->1000.

A.2.1.4 Bromine saturated solution.

A.2.1.5 3,5-Dihydroxytoluene-ethanol solution: 1->10.

A.2.1.6 Ammonium ferric sulfate-hydrochloric acid solution: 1->1000.

A.2.1.7 Magnesium oxide test solution.

A.2.1.8 Sodium hydroxide solution: 40 g/L.

A.2.1.9 Sodium hydroxide solution: 1->25.

A.2.1.10 Ammonia solution: 2+3.

A.2.1.11 Ammonium molybdate solution: WEIGH 6.5 g of molybdenum trioxide powder, ADD aqueous ammonia solution (14.5+14) to make it dissolved. After cooling, ADD nitric acid solution (32+40) while stirring. After being placed for 48 hours, it is filtered through asbestos. This solution should not be stored for long periods of time. TAKE 5 mL of this solution, ADD 2 mL of disodium hydrogen phosphate solution (1->8). After immediately or slightly heating, a large amount of yellow precipitate shall be formed, otherwise this solution cannot be used. It shall be stored away from light. If precipitate is formed, the supernatant is used.

content, w_1 , is calculated according to formula (A.1):

where

0.5 - the conversion factor;

1.446 - the conversion factor;

A_0 - the absorbance of the sample solution;

w_1 - the mass of the sample, in grams (g);

w_2 - the mass fraction of moisture in the sample, %.

A.4 Determination of clarity

A.4.1 Reagents and materials

A.4.1.1 Nitric acid solution: 1+2.

A.4.1.2 Dextrin solution: 20 g/L.

A.4.1.3 Silver nitrate solution: 20 g/L.

A.4.1.4 Turbidity standard solution: with chlorine (Cl) 0.01 mg/mL. MEASURE

14.1 mL $\pm$ 0.02 mL of $c(\text{HCl}) = 0.1 \text{ mol/L}$ hydrochloric acid standard titration solution, PLACE in a 50 mL volumetric flask, DILUTE to the mark. MEASURE

10 mL $\pm$ 0.02 mL of the solution in a 1000 mL volumetric flask, DILUTE to the mark with water, SHAKE well.

A.4.2 Analysis steps

WEIGH about 1.0 g of sample to the nearest 0.01 g, PLACE in a colorimetric tube, add water to dissolve and dilute to 25 mL, as the sample solution. TAKE another colorimetric tube, accurately ADD 0.50 mL turbidity standard solution,

ADD water to 20 mL, ADD 1 mL of nitric acid solution, 0.2 mL of dextrin solution and 1 mL of silver nitrate solution, ADD water to 25 mL, SHAKE well, LEAVE it in the dark for 15 min, as the standard turbidity solution.

In the absence of direct sunlight, observe axially and laterally. If the turbidity of the sample solution is not greater than the turbidity of the standard turbidity solution, the test is passed.

A.5 Determination of absorbance ratio