# GB

NATIONAL STANDARD OF THE

PEOPLE'S REPUBLIC OF CHINA

# GB 1886.170-2016

## National Food Safety Standard -

## Food Additives - 5'-guanylate disodium

食品安全国家标准

食品添加剂 5'-鸟苷酸二钠

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# National Food Safety Standard - Food Additives - 5'-guanylate disodium

## 1 Scope

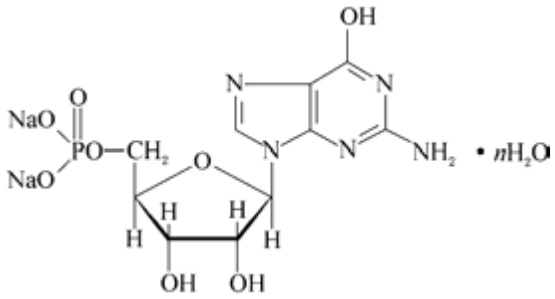
This Standard applies to the food additive 5'-guanylate disodium prepared by fermentation or enzymatic hydrolysis using starch and saccharide as raw materials.

## 2 Chemical name, structural formula, molecular formula, and relative molecular mass

### 2.1 Chemical name

5'-guanylate disodium

### 2.2 Structural formula




### 2.3 Molecular formula

$C_{10}H_{12}N_5Na_2O_8P \cdot nH_2O$

### 2.4 Relative molecular mass

407.18 (according to 2011 international relative atomic mass, on anhydrous basis)

## 3 Technical requirements

### 3.1 Sensory requirements

Spectrophotometer.

**A.3.2 Analytical procedures**

WEIGH 1 g of sample (accurate to 0.0001 g); dissolve in 20 mL of water; shake well. PLACE the above sample solution into a 1 cm cuvette; USE water as a blank control; USE a spectrophotometer to, at 430 nm, determine the light transmittance of the sample solution; RECORD the reading.

The test result is based on the arithmetic mean of parallel determination results. The absolute difference between the two independent determination results, obtained under repeated conditions, shall not exceed 0.5% of the arithmetic mean.

**A.4 Determination of pH (5% aqueous solution)**

**A.4.1 Instruments and equipment**

Acidimeter.

**A.4.2 Analytical procedures**

WEIGH 1 g of sample (accurate to 0.0001 g); dissolve in 20 mL of water; USE an acidimeter to determine the pH of the above sample solution.

The test result is based on the arithmetic mean of parallel determination results. The absolute difference between the two independent determination results, obtained under repeated conditions, shall not exceed 0.2.

**A.5 Determination of other nucleotides**

**A.5.1 Reagents and materials**

**A.5.1.1** Developing solution: tert-butanol+saturated ammonium sulfate+0.025 mol/L aqueous ammonia=3+160+40.

**A.5.1.2** Chromatographic filter paper.

**A.5.2 Instruments and equipment**

**A.5.2.1** UV analyzer.

**A.5.2.2** Microinjector.

**A.5.3 Analytical procedures**

WEIGH 1.0 g of sample; ADD water to dissolve and dilute to 100 mL. USE a chromatographic filter paper for application of 10.0 μL of sample; SPREAD

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