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NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA

GB 1886.41-2015

National food safety standard - Food additives - Yellow gum

食品安全国家标准 食品添加剂 黄原胶

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National food safety standard - Food additives - Yellow gum

1 Scope

This standard applies to the food additive yellow gum, which is produced by *Xanthomonas campestris*, as the producing bacteria AND the starch as the main raw material, fermented by specific organisms, purified, dried, pulverized.

2 Structural formula

3 Technical requirements

3.1 Sensory requirements

Sensory requirements shall meet the requirements of Table 1.

3.2 Physical and chemical indicators

Physical and chemical indicators shall meet the requirements of Table 2.

Appendix A

Inspection method

A.1 General provisions

The reagents and water, which are used in this standard, refer to analytically pure reagents and grade-3 water as specified in GB/T 6682, unless otherwise specified. The standard solution used in the test, AND the standard solution, preparations, products for impurity determination, shall be prepared in accordance with the provisions of GB/T 601, GB/T 602, GB/T 603, unless otherwise specified. The solution, which is used in the test, refers to the aqueous solution, when the solvent is not specified.

A.2 Identification test

A.2.1 Solubility test

Weigh 1 g (accurate to 0.01 g) of specimen. Slowly pour it into a beaker, which contains 100 mL of water. Soak it for 15 min. Carefully immerse the stirring rod in the water. Slowly turn on the stirrer, to a speed of 200 r/min. After 25 min, it can be completely dissolved. According to this method, add the specimen into ethanol, acetone or ether, without dissolving.

A.2.2 Gel test

Add 300 mL of water into a 500 mL beaker. Preheat to 80 °C. Turn on the stirrer, to 200 r/min. Add 1.5 g of dry specimen and locust bean gum (accurate to 0.01 g), while stirring, until the mixture forms a solution. Continue to stir, for more than 30 minutes (the water temperature is not lower than 60 °C during the stirring process). Stop stirring. Cool it at room temperature, for at least 2 h. When the temperature drops below 40 °C, a gel will form. Prepare a 1% specimen solution, according to this method, as a control, without adding locust bean gum; there is no such gel.

A.3 Determination of viscosity

A.3.1 Instruments and equipment

Brookfield rotational viscometer or other viscometer of equivalent performance.

A.3.2 Measurement conditions

A.3.2.1 Rotor model: No.3 rotor.

A.3.2.2 Rotor speed: 60 r/min.

A.3.2.3 Measurement temperature: 24 °C ~ 25 °C.

A.3.3 Analysis steps

A.3.3.1 Prepare a solution containing 1% specimen and 1% potassium chloride

A.3.3.1.1 Use clean and dry weighing paper, to weigh 3 g of specimen and potassium chloride (accurate to 0.01 g), respectively. Mix them evenly.

A.3.3.1.2 Measure 300 mL of distilled water. Pour it into a 400 mL beaker.

A.3.3.1.3 Put the beaker, which contains the water, under the stirrer. Turn on the stirrer. Slowly add the mixed specimen to the water, between the stirring blade and the wall of the beaker. Start timekeeping. Make stirring continuously at 800 r/min, for 2 h. The temperature is kept at 24 °C ~ 25 °C.

A.3.3.1.4 Stop stirring. Take out the beaker. Turn the solution up and down a few times, by a stirring rod or the like.

A.3.3.2 Determination

Take an appropriate amount of the solution, which contains 1% specimen and 1% potassium chloride. Put it in a 100 mL high beaker. Measure it under the specified measurement conditions.

A.4 Determination of shear property values

A.4.1 Determination method

According to A.3, measure the viscosity of No.3 rotor, at 6 r/min and 60 r/min, respectively.

A.4.2 Result calculation

Shear property value, N , is calculated according to formula (A.1):

$$N = \frac{\eta_1}{\eta_2} \dots\dots\dots (A.1)$$

Where:

η_1 - The viscosity value, when the rotation speed is 6 r/min, in centipoise (cP);

η_2 - The viscosity value, when the rotation speed is 60 r/min, in centipoise (cP).

A.5 Measurement of loss on drying

A.5.1 Method summary

Dry the specimen to a constant weight, at a certain temperature. Calculate the mass of the lost material.

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