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

**GB 6783-2013**

Replacing GB 6783-1994

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**Food additive -- Gelatin  
(English Translation)**

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### Foreword

This standard replaces GB 6783-1994 "food additive gelatin." this standard and GB 6783-1994 compared to the main changes are as follows.

- Modify the standard name;
- Remove the gelatin classification, unified index requirements gelatin;
- Removed Bertrand viscosity, pH, plasma point, the indicator of heavy metals;
- Modify transparency renamed transmittance, and revised the detection method;
- Added peroxide, lead indicator;
- Modify the arsenic, chromium, sulfur dioxide detection method;
- Removed the inspection rules, marking, packaging, transportation requirements.

National Food Safety Standard Food additive gelatin

### 1 Scope

This standard applies to animal bone, skin, muscle, tendon and moderate scale and the like as raw materials by hydrolysis of the obtained food additive gelatin.

#### 2.1 Requirements for raw materials

##### 2.1.1

can be used raw materials.

a) slaughterhouses, meat processing, canning factory, and other markets provided by the

quarantine inspection of fresh cattle, pigs, sheep and fish and other animal skin, bone, Muscle, tendon and scale and the like;

b) the inner layer of skin or skin with burrs under a cross-sectional front leather tanning process, under shear;

c) cleaning the bone grain processing factories bone particles and naturally dried aggregate.

### 2.1.2

prohibit use of raw materials.

a) Any waste tannery tanning after;

b) No inspection and quarantine certification of cattle, pigs, sheep and other animals or fish skin, bone, muscle, tendon and scale and the like;

c) was treated by the harmful use of organic solvents such as benzene or degreased animal skin, bone, muscle, tendon and scale and the like.

## 2.2 Sensory requirements

Sensory requirements should be consistent with Table 1.

Table 1 Sensory requirements

Project requires test methods Light yellow to yellow color, take appropriate samples were placed in a clean transparent glass, natural Light, color and observe its status as a solid state (such as grain, flakes, powder, etc.) Odour Not odor formulated gelatin solution (2.5%), olfactory its flavor

## 2.3 Physical indicators

Physical and chemical requirements shall be in accordance with Table 2.

Table 2. Physical and chemical indicators

Item Index Test method Requirements Water, w /% ≤ 14.0 GB 5009.3 a direct drying Freezing intensity (6.67%)/(Bloom g) ≥ 50 Appendix A A.4 Ash, w /% ≤ 2.0 GB 5009.4 b Transmittance /% Wavelength/nm 450 ≥ 30 Appendix A A.5 620 ≥ 50 TABLE 2 (cont.) Project the indicator test methods Water-insoluble, w /% ≤ 0.2 Appendix A A.6 Sulfur dioxide/(mg/kg) ≤ 30 Appendix A A.7 Peroxide/(mg/kg) ≤ 10 Appendix A A.8 Total arsenic (As)/(mg/kg) ≤ 1.0 GB/T 5009.11 Chromium (Cr)/(mg/kg) ≤ 2.0 GB/T 5009.123 graphite furnace atomic absorption method c or Appendix A, A.9 Lead (Pb)/(mg/kg) ≤ 1.5 GB 5009.12 Graphite Furnace Atomic Absorption Spectrometry a sample weight of 1.0 g, accurate to 0.001 g, the drying temperature of 105 °C ± 2 °C.

b sample weight of 1 g ± 0.1 g, accurate to 0.001g.

c arbitration law.

## 2.4 Microbial indicators

Microbiological indicators comply with Table 3.

### 3 Table, microbiological indicators

Item Index Test method Requirements Cfu/(CFU/g)  $\leq 10000$  GB 4789.2 Salmonella not detected GB 4789.4 Coliform/(MPN/g)  $\leq 3$  GB 4789.3 MPN counting Appendix A Testing method A.1 General Provisions Unless otherwise indicated in the analysis using only recognized as analytical reagents and GB/T 6682 set forth in the water. Analysis in the standard drop Fixed solution, impurities measured by standard solution, preparations and products, did not indicate when the other requirements, according to GB/T 601, GB/T 602, GB/T Preparation of the provisions of 603. This solution was used in the test does not indicate what is formulated with solvent, it refers to an aqueous solution.

A.2 preparation of the sample solution Weigh a certain amount of the sample to the nearest 0.1 g, into a clean, dry container, according to the desired concentration by adding a certain amount of water in the room Place at a temperature 2 h, sufficiently swelling, then the vessel was placed in a water bath at  $65\text{ }^{\circ}\text{C} \pm 1\text{ }^{\circ}\text{C}$ , the slowly stirring within  $20\text{ min} \pm 5\text{ min}$  Dissolution of a homogeneous liquid.

A.3 Identification Test A.3.1 force in frozen vial formulation sample solution (6.67%) 120 mL, cooled to about  $30\text{ }^{\circ}\text{C}$ , capped at  $10\text{ }^{\circ}\text{C} \pm 0.1\text{ }^{\circ}\text{C}$  low temperature tank Cooling 16 h ~ 18 h, samples should be gelatinous, after heating to form a solution again.

A.3.2 Take a sample of about 0.5 g, water 50 mL, heated dissolved, take the solution 5 mL, add potassium dichromate solution (Weigh 7.5g dichromate Potassium, formulated as a solution 100mL) and 4 parts of dilute hydrochloric acid (234mL amount of concentrated hydrochloric acid diluted to 1000mL) 1 part of a mixture of a few drops of orange that is generated Yellow flocculent precipitate. Take the above identification test in the remaining solution 1 mL, water 100 mL, shake, add tannic acid test solution a few drops, which occurred turbid.

Determination A.4 Freezing Strength A.4.1 Principle Under specified conditions, to a diameter of 12.7 mm inner cylinder is pressed into the surface of jelly containing 6.67% gelatin solution at below 4 mm, Freezing strength of the applied force representatives to Bloom g units.

A.4.2 Instruments and Equipment A.4.2.1 cold edge instrument. Organization analyzer or gel strength tester.

A.4.2.2 cylinder. Diameter  $12.700\text{ mm} \pm 0.013\text{ mm}$ .

A.4.2.3 cold edge Bottle. capacity 150 mL, an inner diameter of 59 mm, height 85 mm.

A.4.2.4 bath. You can control the temperature of  $10\text{ }^{\circ}\text{C} \pm 0.1\text{ }^{\circ}\text{C}$ .

A.4.2.5 water bath. water bath to control the temperature of  $65\text{ }^{\circ}\text{C} \pm 1\text{ }^{\circ}\text{C}$ .

A.4.2.6 flasks. 250 mL.

#### A.4.3 Analysis step

In the preparation of frozen force bottle 6.67% of the sample solution 120 mL, capped at  $10\text{ }^{\circ}\text{C} \pm 0.1\text{ }^{\circ}\text{C}$  cryogenic cooling tank 16 h ~ 18 h. The cold edge Bottle was removed from the constant temperature water bath, quickly placed in cold force gauge round table. Cold edge instrument "depth" to select 4 mm, "speed" Select 0.5 mm/s or 1 mm/s, measured freezing strength, sample test will be completed within 2 min.

A.4.4 Calculation Results Read directly from the power meter frozen Freezing measured intensity values, the unit represented in Bloom g. Results rounded, taking parallel determination results the arithmetic mean of the measurement results. Two absolute difference between independent results under repeatability condition must not exceed 10 Bloom g.

A.5 Determination of transmittance A.5.1 Principle at  $45\text{ }^{\circ}\text{C}$ , determined by spectrophotometry gelatin solution (6.67%) at a wavelength of 450 nm and 620 nm transmittance.

A.5.2 Instruments and Equipment A.5.2.1 visible spectrophotometer.

A.5.2.2 balance. a sense of the amount of 0.1 g.

#### A.5.3 Analysis step

A.5.3.1 preparation of the sample solution (6.67%), and heated to  $48\text{ }^{\circ}\text{C}$ .

A.5.3.2 spectrophotometer adjusted to a wavelength of 450 nm.

A.5.3.3 water as a reference to calibrate the instrument.

A.5.3.4 The solution was poured into 10 mm cuvette at  $45\text{ }^{\circ}\text{C}$ , measured transmittance of the sample solution.

A.5.3.5 wavelength adjusted to 620 nm, and repeat A.5.3.3 ~ A.5.3.4 operation.

A.5.4 Calculation Results Directly by percent transmittance two wavelengths (%) is represented. Results reserved bit integer. Take the parallel determination results as the arithmetic mean the measurement results. The absolute difference between two independent results obtained under repeatability conditions should not exceed 1%.

A.6 Determination of insoluble matter A.6.1 Principle A glass filter crucible gelatin solution derived insolubles amount.

A.6.2 Instruments and Equipment Sand core glass crucible. G3.