



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

GB 1886.88-2015

**National Food Safety Standard -- Food Additives -- Sodium
fumarate**

食品安全国家标准 食品添加剂 富马酸一钠

(English Translation)

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1 Scope

This standard applies to Moore through the reaction of fumaric acid and sodium hydroxide, then purified and concentrated, crystallized and dried to obtain food additive Sodium fumarate.

2.1 Sensory requirements

Sensory requirements shall comply with the requirements of Table 1.

Table 1 Sensory requirements

Project requires test methods Color White Status crystalline powder Odour odorless Take the right amount of sample is placed in a clean, dry white porcelain dish, observed in natural light Color and status, olfactory and taste it

2.2 Physical indicators

Physical and chemical indicators should be consistent with the provisions of Table 2.

Table 2. Physical and chemical indicators

Item Index Test Method Fumaric a sodium content (in $C_4H_3NaO_4$ dollars), w /% 98.0 ~ 102.0 Appendix A A.2 Clarity and color of solution by testing in Appendix A A.3 pH (1.0g/30mL) 3.0 ~ 4.0 GB/T 9724 Sulfate (SO_4 dollars), w /% ≤ 0.01 GB/T 9728 Loss on drying, w /% ≤ 0.5 Appendix A A.4 Residue on ignition (in dry basis), w /% 50.5 ~ 52.5 Appendix A A.5 Heavy metals (Pb)/(mg/kg) ≤ 20.0 GB 5009.74 Arsenic (As_2O_3 dollars)/(mg/kg) ≤ 4.0 GB 5009.76

2.3 Microbial indicators

Microbiological indicators comply with Table 3.

Table 3 microbiological indicators

Item Index Test Method Cfu/(CFU/g) ≤ 10000 GB 4789.2 Coliform/(MPN/g) ≤ 3 GB 4789.3 Appendix A Testing method A.1 General Provisions this standard reagents and water in the absence of other specified requirements, refer to the three water analytical reagent and GB/T 6682 regulations.

Standard solutions used in the tests, the determination of impurities standard solution, preparations and products, did not indicate when the other requirements according to GB/T 601, GB/T 602, GB/T 603 provisions of preparation. Solution was used in the tests did not indicate what is formulated with solvent, it refers to an aqueous solution.

A.2 Determination of sodium fumarate content ($C_4H_3NaO_4$ basis) Weigh Loss on drying learn about 0.3g sample was dissolved in 30mL water, with 0.1mol/L sodium hydroxide standard solution drops , Add 2 drops of phenolphthalein indicator set, color of the solution changed from colorless to pink is the end.

1mL 0.1mol/L sodium hydroxide standard solution is equivalent to 13.81mg sodium fumarate ($C_4H_3NaO_4$).

A.3 Determination of the color and clarity of the solution Take this product 0.5g, was added 10mL of water, heated in a water bath at 40 °C with shaking for about 10min dissolved. Should be completely dissolved, the solution was colorless and clear Clear, turbidity shall not exceed the standard turbidity solution turbidity was.

Appendix turbidity standard solution preparation than B.

A.4 Determination of loss on drying Accurately weighed sample of about 4g, placed in 120 °C ± 2 °C constant weight weighing bottle, in an electric oven at 120 °C ± 2 °C dried 4h, take Out, put cool to room temperature in a desiccator. Loss on drying w1, according to equation (A.1) Calculated.

$m_1 - m_2$

100% (A.1)

Where.

Mass m_1 --- prior to drying of the sample, in grams (g);

Quality, unit m_2 --- after drying the sample in grams (g).

A.5 Determination of residue on ignition (dry matter basis) Take the lid empty porcelain crucible ignition to constant weight at 750 °C, air quality and accurately weighed crucible (m_3). Accurately weighed sodium fumarate when a sample (pre-dried) of about 1g placed in a crucible, slowly heated on a hot plate, try to make it all the ash, until no smoke, sulfur is added 1mL Acid wet ashing and again, no white smoke is generated, the crucible placed in a muffle furnace at 750 °C burning (general 2h), until constant weight removed Put in the crucible rack slightly cooled, vacuum desiccator to cool to room temperature, accurate weighing crucible mass (m_4). While doing the blank test.

Burning residue mass fraction w_2 , according to equation (A.2) calculations.

$$(M_4 - m_3) - (m_5 - m_6)$$

$$m \times 100\%$$

Where.

After m_4 --- ignition residue and the total mass of the crucible, in grams (g);

Quality m_3 --- blank crucible, in grams (g);

m_5 --- blank crucible after the second burning mass in grams (g);

The first mass ignited m_6 --- blank crucible, in grams (g);

M --- the quality of the sample, in grams (g).

Appendix B

Preparation of standard turbidity solution B.1 Reagents and materials B.1.1 nitric acid solution. 1 -> 3.

B.1.2 dextrin solution. 20g/L.

B.1.3 silver nitrate solution. 20g/L.

B.1.4 hydrochloric acid standard solution. $c(\text{HCl}) = 0.1\text{mol/L}$.

Preparation B.2 standard turbidity solution B.2.1 chlorine (Cl) per 1mL solution was prepared 1mg the exact amount of the standard solution of hydrochloric acid 14.1mL, a 50mL volumetric flask, diluted with water to the mark.

B.2.2 chlorine (Cl) per 1mL 0.01mg solution was prepared the exact amount taken per 1mL containing chlorine (Cl) is a solution of 10mL 1mg placed 1000mL volumetric flask, diluted with water to the mark.

Preparation B.2.3 Clarification standard turbidity solution the exact amount taken per 1mL containing chlorine (Cl) is a solution of 0.2mL 0.01mg, diluted with water to 20mL, nitric acid solution is added 1mL, paste Fine solution 0.2mL, silver nitrate solution 1mL, shake, place 15min in the dark.