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

GB 31623-2014

National food safety standard Food additive potassium stearate

食品安全国家标准 食品添加剂 硬脂酸钾

(English Translation)

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1 Scope

This standard applies to stearic acid and potassium hydroxide as raw materials, processed prepared food additive potassium stearate.

2.1 Sensory requirements

Shall comply with the requirements in Table 1.

Table 1 Sensory requirements

Project requires test methods White to pale yellow color of the powders, granules, tablets and other solid type Take the right amount of sample in a clean, dry white porcelain plate, Concept under natural light its color and state police

2.2 Physical indicators

Shall comply with the provisions of Table 2.

Table 2. Physical and chemical indicators

Item Index Test Method Stearic acid potassium content (%) ≥ 95 Appendix A A. 3 Free fatty acids (%) ≤ 3 A. 4 Unsaponifiables (%) ≤ 2 GB/T 5535.1 ether extraction Lead (Pb)/(mg/kg) ≤ 2 GB 5009.12 Appendix A Testing method A. 1. GENERAL PROVISIONS Unless otherwise specified in this standard, the use of analytical reagent purity should be more than the standard titration solution, standard solution for measuring impurities, Preparations and products, should be GB/T 601, GB/T 602, GB/T 603 requirements prepared test water should be consistent with GB/T 6682 in the three water Provisions. Solution was used in the tests did not indicate what is formulated with solvent, it refers to an aqueous solution.

A. 2 Identification Test A. 2.1 Solubility Test Sample soluble in water and ethanol.

A. 2.2 Identification of potassium ions Take 1g sample was added to a mixed solution of 25mL of water and 5mL consisting of hydrochloric acid, heated. Fatty acids are released, floating on the liquid surface can be it was dissolved in hexane. After cooling, the liquid

layer was poured into the flask, and evaporated to dryness. The residue was dissolved in water. Take a platinum wire, wetted with hydrochloric acid solution, Dipped into the sample combustion in a colorless flame, the flame that was purple; but there is a small amount of sodium coexist, blue glass perspective should be separated in order to identify.

A. Determination of 3 potassium stearate content A. 3.1 Analysis Steps A. 3.1.1 Preparation of methyl stearate Samples previously at $105\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$ dried to constant weight. Accurately weighed sample taken after drying about 350mg, according to GB/T 17376 regulations Methyl esterification methods to give methyl stearate.

A. 3.1.2 Gas chromatographic analysis the method according to GB/T 17377 regulations for methyl stearate (A.3.1.1) analyzed by gas chromatography, mass calculated potassium stearate fraction.

A. 4 Determination of free fatty acids A. 4.1 Reagents and solutions A. 4.1.1 sodium hydroxide standard titration solution. Ba (NaOH) = 0.1mol/L.

A. 4.1.2 95% ethanol. phenolphthalein indicator solution, with sodium hydroxide solution and to pale pink.

A. 4.1.3 phenolphthalein indicator solution. 10g/L.

A. 4.2 Analysis Steps Weigh 7g ~ 28g sample, accurate to 0.001 g of, placed in a conical flask, add 95% ethanol 50mL, heated to dissolve. Adding a few Drops of phenolphthalein indicator solution, immediately titrated with sodium hydroxide standard solution titration to pale pink, maintain 30s do not fade as the end point.

A. 4.3 Calculation Results the mass fraction of free fatty acids according to formula 1 (A.1) Calculated.

$V_p \times 32.2 \times Ba$

$M_1 \times 100\%$

Where.

V_p --- The volume of sodium hydroxide standard titration solution used, in milliliters (mL);

Ba --- the actual standard titration with sodium hydroxide solution concentration, expressed in moles per liter (mol/L);

32.2 --- conversion factor;

M_1 --- sample mass, in grams (g).