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NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA

GB 1886.74-2015

**National food safety standard - Food additives - Potassium
citrate**

食品安全国家标准 食品添加剂 柠檬酸钾

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National food safety standard - Food additives - Potassium citrate

1 Scope

This standard applies to the food additive potassium citrate, which is prepared from citric acid and potassium hydroxide or potassium carbonate.

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

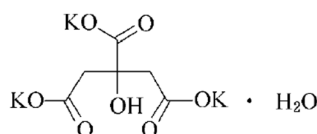
2.1 Chemical name

Potassium 2-hydroxypropane-1,2,3 tricarboxylate

2.2 Molecular formula

$C_6H_5K_3O_7 \cdot H_2O$

2.3 Structural formula



2.4 Relative molecular mass

324.41 (according to 2011 international relative atomic mass)

3 Technical requirements

3.1 Sensory requirements

Sensory requirements shall comply with the provisions of Table 1.

Appendix A

Inspection method

A.1 Warning

Some test procedures specified in the test methods may lead to hazardous situations. Operators shall take appropriate safety and protective measures.

A.2 General provisions

The reagents and water used in this standard, unless otherwise required, refer to analytically pure reagents and grade three water specified in GB/T 6682. Unless otherwise specified, the standard titration solutions, standard solutions for impurity determination, preparations and products used in the test methods shall be prepared, in accordance with the provisions of GB/T 601, GB/T 602, GB/T 603. Unless otherwise stated, the solutions used are all aqueous solutions.

A.3 Identification test

A.3.1 Reagents and materials

A.3.1.1 5% hydrochloric acid solution: Measure 117 mL of hydrochloric acid. Dilute it to 1000 mL.

A.3.1.2 5% sulfuric acid solution: Measure 29 mL of sulfuric acid. Slowly inject it into about 700 mL of water. Cool it. Dilute it to 1000 mL.

A.3.1.3 Mercury sulfate solution: Weigh 5 g of mercury oxide. Add 40 mL of water. Slowly add 20 mL of concentrated sulfuric acid. Stir while adding. Add 40 mL of water and stir to dissolve.

A.3.1.4 Potassium permanganate solution: $c(\frac{1}{5}\text{KMnO}_4) = 0.1 \text{ mol/L}$.

A.3.1.5 Pyridine-acetic anhydride solution (3 + 1): Mix pyridine and acetic anhydride, at a ratio of 3:1.

A.3.2 Analytical procedures

A.3.2.1 Put a small amount of specimen into a 25 mL crucible. Ignite it with direct fire, which will slowly decompose; however, no caramel smell shall occur.

A.3.2.2 Take 2 mL of specimen solution. Add a few drops of sulfuric acid solution. Heat to boiling. Add a few drops of potassium permanganate solution. Shake it; the purple color disappears. Then add 1 drop of mercury sulfate solution, to form a white

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