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

GB 25573-2010

**The national food safety standards of food additives calcium
peroxide**

(English Translation)

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Foreword

Appendix A of this standard is a normative appendix.

National Food Safety Standard Food Additives Calcium Peroxide

1 Scope

This standard applies to calcium chloride, hydrogen peroxide and ammonia as raw material or calcium hydroxide, hydrogen peroxide as raw materials to produce food additives Calcium peroxide.

2 Normative references

The standard file referenced in the application of this standard is essential. For dated references, only the edition date of the note Apply to this standard. For undated references, the latest edition (including any amendments) applies to this standard.

3 Formula and relative molecular mass

Formula 3.1

CaO₂

3.2 Relative molecular mass

72.08 (according to 2007 international relative atomic mass)

4 Technical Requirements

4.1

Sensory requirements. comply with Table 1.

Table 1 Sensory requirements

Project requires test methods Pale yellow color take appropriate sample is placed in 50mL beaker was observed under natural light color Chak and texture. State organization crystalline powder

4.2

Physical indicators. to comply with Table 2.

Table 2. Physical and chemical indicators

Item Index Test Method Active oxygen (O), w /% ≥ 16.6 Appendix A A.4 Water, w /% ≤ 2.0 A.5 in Appendix A pH (10g/L in water) 11 - 13 in Appendix A A.6 Heavy metals (Pb)/(mg/kg) ≤ 10 Appendix A A.7 Lead (Pb)/(mg/kg) ≤ 4 Appendix A A.8 Arsenic (As)/(mg/kg) ≤ 3 A.9 in Appendix A Fluorides (as F)/(mg/kg) ≤ 50 Appendix A A.10 Appendix A (Normative) Testing method A.1 Warning Reagents The standard test methods used for toxic or corrosive, be careful when operating! As should be immediately splashed on the skin Rinsed with water, severe cases should be treated immediately. When using the virulent, should be strictly in accordance with the relevant provisions of the management; and should be used to avoid inhalation or skin Contacts, if necessary in a fume hood. Exposed parts of the wound can not touch people.

A.2 General Provisions the standard test methods used in the reagents and water, did not indicate when the other requirements, refer to analytically pure reagents and GB/T 6682-2008 Three water regulations. Used in the test standard titration solution, impurity standard solution, preparations and products, did not indicate when additional requirements are Press HG/T 3696.1, HG/T 3696.2, the provisions of HG/T 3696.3 of preparation.

A.3 Identification Test A.3.1 Reagents and materials A.3.1.1 hydrochloric acid solution. 12.

A.3.1.2 ammonia solution. 13.

A.3.1.3 ammonium acetate solution. 35 g/L.

A.3.1.4 phenolphthalein indicator solution. 10 g/L.

A.3.2 Analysis step

A.3.2.1 little sample taken after the hydrochloric acid solution to dissolve, 2 drops of ~ 3 drops of phenolphthalein indicator solution, the solution was adjusted to neutral with ammonia, acetic acid I.e., a white precipitate hydroxide solution, the precipitate can be dissolved in a hydrochloric acid solution, and insoluble in glacial acetic acid.

A.3.2.2 moistened with hydrochloric acid calcium salt solution, resulting in a temporary reddish to dark red.

A.4 Determination of reactive oxygen species A.4.1 Method summary Under acidic conditions, hydrogen peroxide and potassium permanganate oxidation-reduction reaction, according to the consumption of potassium permanganate standard titration solution, indeed the active oxygen content constant.

A.4.2 Reagents and materials A.4.2.1 phosphoric acid. 1 + 3.

A.4.2.2 sulfuric acid solution. 1 + 3.

A.4.2.3 standard potassium permanganate titration solution. $c(1/5\text{KMnO}_4) = 0.1 \text{ mol/L}$.

A.4.3 Analysis step

Adding about Weigh about 0.2 g samples, accurate to 0.000 2 g, placed in a phosphoric acid solution containing 25mL Erlenmeyer flask to be dissolved after the sample 25 mL of sulfuric acid solution was titrated with potassium permanganate standard solution titration until the solution was pink, and does not disappear shall end within 30 s. Simultaneously Line blank test.

In addition to the blank test without the sample, the addition of reagents and other operations of the kind and amount (other than the standard titration solution) with the same Test.

A.4.4 Calculation Results the active oxygen content by mass of oxygen (O) fraction w_1 and its value is expressed in%, according to formula (A.1) Calculated.

1000) 0

c_{MVV}

Where.

Numerical potassium permanganate titration V_{--} standard titration solution consumed by the solution volume in milliliters (mL);

Numerical standard potassium permanganate titration V_0 -- blank test solution consumed volume in milliliters (mL);

Accurate c_{--} potassium permanganate standard titration solution concentration value in units of moles per liter (mol/L);

m_{--} sample mass value in grams (g);

Numerical M_{--} oxygen ($1/2 \text{ O}$) molar mass of the units of grams per mole (g/mol) ($M = 7.999$).

Take the arithmetic mean of the parallel determination results of the measurement results, the results of two parallel determination of the absolute difference is not more than 0.2%.

A.5 Determination of Moisture A.5.1 Instruments and Equipment A.5.1.1 weighing bottle.

Phi25 mm x 40 mm.

A.5.1.2 electric oven. the temperature can be controlled at $118\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$.

A.5.2 Analysis step

It was used at $118\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$ dried to constant mass weighing bottle, weigh approximately 1 g samples, accurate to 0.000 2 g, placed in $118\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$ electric oven placed 2 h, the weighing bottle is placed after the dryer to cool to room temperature and weigh. And measuring the reactive oxygen-containing dried the amount. (Analysis methods and results calculated according to the provisions A.4 Determination of active oxygen content after drying to w2 dollars.) A.5.3 Calculation Results Moisture mass fraction w3 and its value is expressed in%, according to formula (A.2) Calculated.

) (213 132

wmmwmmm

Where.

Numerical m1-- weighing bottle mass in grams (g);

Numerical m2-- dried before weighing bottle and sample mass, in grams (g);

M3-- value after drying the sample and weighing bottle mass in grams (g);

m-- sample mass value in grams (g);

w1-- by active oxygen content A.4 measured in%;

w2-- drying 2 h the rear was active oxygen content, expressed as a percentage.

Take the arithmetic mean of the parallel determination results of the measurement results, the results of two parallel determination of the absolute difference is not more than 0.2%.

A.6 pH measurement of A.6.1 Reagents and materials Carbon dioxide-free water.

A.6.2 Instruments and Equipment pH meter. Indexing is 0.02.

A.6.3 Analysis step

Weigh $1.00\text{ g} \pm 0.01\text{ g}$ sample was placed in a 150 mL beaker, add about $25\text{ }^{\circ}\text{C}$ in 100 mL of carbon dioxide-free water until the sample solution Once extracted, according to the provisions of GB/T 9724-2007 were measured.

A.7 Determination of Heavy Metals A.7.1 Reagents and materials A.7.1.1 nitrate solution. 1 + 1.

A.7.1.2 ammonia solution. 1 + 1.

A.7.1.3 acetic acid - sodium acetate buffer solution. pH~3.

A.7.1.4 sodium sulfide solution. This solution should be shading, stamped sealed in a