



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

GB 1886.58-2015

National Food Safety Standard -- Food Additives -- Ether

食品安全国家标准 食品添加剂 乙醚

(English Translation)

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1 Scope

This standard applies to ethanol or ethylene as raw material under the action of sulfuric acid fractionation prepared food additive ethyl ether was removed.

2 Molecular formula, relative molecular mass and structural formula

Formula 2.1

C₄H₁₀O

2.2 Formula

H₃C O CH₃

2.3 Relative molecular mass

74.12 (according to 2007 international relative atomic mass)

3.1 Sensory requirements

Sensory requirements shall comply with the requirements of Table 1.

Table 1 Sensory requirements

Project requires test methods Color colorless Transparent liquid state with characteristic odor odor Take appropriate sample in a clean, dry cuvette, under natural light, Visually observe its color and status, olfactory odor

3.2 Physical and Chemical Indicators

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

Table 2. Physical and chemical indicators

Item Index Test Method Water, w /% ≤ 0.2 GB 5009.3 in the Karl Fischer method Boiling range/ $^{\circ}\text{C}$ 34 ~ 35 GB/T 7534 Evaporation residue/(mg/100mL) ≤ 2 GB/T 6324.2 Lead (Pb)/(mg/kg) ≤ 2.0 GB 5009.12 Aldehydes and ketones by test A.4 in Appendix A by acidity test A.5 in Appendix A Peroxide test by test A.6 in Appendix A Appendix A Testing method A.1 Warning Some test procedures prescribed test method can lead to dangerous situations. The operator shall take appropriate safety and health practices.

A.2 General Provisions Unless otherwise indicated in the analysis using only recognized as analytical reagents and GB/T 6682 stipulated three water. Test Methods the standard titration solution, impurity measurement standard solution, preparations and products, did not indicate when the other requirements, according to GB/T 601, Preparation of the provisions of GB/T 602 and GB/T 603; and the solution, unless otherwise indicated, are aqueous.

A.3 Identification Test A.3.1 solubility Insoluble in water, soluble in ethanol.

A.3.2 Density

According to the provisions of GB/T 5009.2 measured. 20 $^{\circ}\text{C}$ when the density should be 0.713g/cm³ ~ 0.715g/cm³.

A.4 Determination of aldehydes and ketones A.4.1 Reagents and materials Nessler test solution. take 10g potassium iodide was dissolved in 10mL of water, stirring slowly added saturated mercuric chloride solution, until the rest of the tiny red Color is no longer precipitate dissolved. Another 30g of potassium hydroxide dissolved in 60mL water, with ice-cooled mixture was added the above. Plus 1mL chlorine Saturated solution of mercury. Was diluted to 200 mL with water, left to settle, the supernatant. The agent will 2mL, ammonium chloride was added to 100mL no ammonia solution (3.3 $\mu\text{g/mL}$), and should appear immediately yellowish brown. Otherwise, it should be re-formulated.

A.4.2 Analysis step

Take Nessler test solution 2mL, into a capacity of about 12mL, 1.5cm diameter of stoppered test tube, filled with sample tubes. cover Good stopper, strong shaking 10s, and then allowed to stand in the dark for 5min. If the process does not generate precipitation or color, the sample passes the test.

If you have color or precipitate, then take a sufficient amount of sample, fractionation in distillation column and the test is repeated with the effluent, or no color Precipitate, it passes the test.

A.5 Determination of acidity A.5.1 Reagents and materials A.5.1.1 95% ethanol.

A.5.1.2 sodium hydroxide standard titration solution. $c(\text{NaOH}) = 0.02\text{mol/L}$.

A.5.1.3 phenolphthalein indicator solution. 10g/L .

A.5.2 Analysis step

Ethanol was added 20mL 50mL stoppered graduated cylinder, add 0.5mL phenolphthalein indicator solution, a solution of sodium hydroxide standard titration solution to pink Has just appeared, and jiggle maintaining 30s. Adding sodium hydroxide standard titration solution 0.3mL and 25mL sample was stoppered, mixed the combined holding jiggle 30s, pink does not go away is by testing.

A.6 peroxide test

A.6.1 Reagents and materials A.6.1.1 potassium iodide solution. 100g/L (use namely distribution).

A.6.1.2 standard iodine titration solution. $c\text{I}_2 = 0.001\text{mol/L}$.

A.6.1.3 standard colorimetric solution. potassium iodide solution was added with 8mL 0.5mL of standard iodine titration solution, mixing spare.

A.6.2 Analysis step

Take potassium iodide solution 8mL, placed in a stoppered test tube, add 4mL sample, cover the stopper and no bubbles remain, strong shaking, then Standing in the dark 30min. Compared with the standard colorimetric solution, yellow appears no deeper than the standard colorimetric solution, that is, through tests.