



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

GB 1886.85-2016

**National Food Safety Standard -- Food Additives -- Glacial
acetic acid (low pressure carbonylation method)**

食品安全国家标准 食品添加剂 冰乙酸（低压羰基化法）

(English Translation)

Issued on: August 31, 2016

Implemented on: January 1, 2017

Issued by: National Health and Family Planning Commission

Table of Contents

- 1 Scope
- 2 Chemical name, molecular formula and relative molecular mass
 - 2.1 Chemical name
 - 2.2 Molecular formula
 - 2.3 Relative molecular mass
- 3 Technical requirements
 - 3.1 Sensory requirements
 - 3.2 Physical and chemical indicators

1 Scope

This standard applies to methanol and carbon monoxide as raw materials by low-pressure carbonylation method of production of food additives glacial acetic acid.

2.1 Chemical name

Glacial acetic acid

2.2 Molecular formula

C₂H₄O₂

2.3 Relative molecular mass

60.05 (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

The project requires a test method Colorless and transparent color State liquid state Odor has a strong irritating vinegar flavor Take the appropriate amount of sample in a clean, dry and transparent glass tube in the natural light, observe its color and state, and smell its taste

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 Glacial acetic acid content, w /% ≥ 99.8 GB 1886.10 Potassium permanganate test passed the test Appendix A, A.3 Evaporation residue, w /% ≤ 0.005 GB 1886.10 Crystallization point/ $^{\circ}\text{C}$ ≥ 16.2 GB/T 7533 Heavy metals (Pb)/(mg/kg) ≤ 2 GB 5009.74 Arsenic (As)/(mg/kg) ≤ 1.0 GB 5009.76 Appendix A Testing method A.1
Warning Some of the reagents used in the test methods of this standard are toxic or corrosive and should be handled with care. Such as splashing on the skin should stand that is, rinse with water, severe cases should be treated immediately. The use of drugs, should be strictly in accordance with the relevant provisions of management; use should avoid inhalation or with the skin Skin contact, if necessary, should be carried out in the fume hood.

A.2 General provisions the reagents and water used in this standard refer to the pure reagent and the tertiary water specified in GB/T 6682 when no other requirements are specified.

Standard solution used in the test, the standard solution for the determination of impurities, preparations and products, in the absence of other requirements are marked by GB/T 601, GB/T 602, GB/T 603. The solution used in the test refers to the aqueous solution when it is not specified in the formulation of the solvent.

A.3 Potassium permanganate test A.3.1 Methodological Summary Glacial acetic acid in the reduction of potassium and potassium permanganate role in the specified time, the solution appears pink should not disappear.

A.3.2 Reagents and materials Potassium permanganate solution. 3.1g/L.

A.3.3 Analysis steps Measure 2mL sample, placed in a plug colorimetric tube. Add 10mL water dissolved in $20\text{ }^{\circ}\text{C} \pm 1\text{ }^{\circ}\text{C}$ water bath, add 0.1mL high Potassium permanganate solution, shake, solution pink in 180min should not disappear is through the test.