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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 10668-2026

Replacing GB/T 10668-2000

Acetic anhydride for industrial use

工业用乙酸酐

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Foreword

This document conforms to GB/T 1.1-2020 "Standardization Work Guidelines Part

1.Structure and Drafting Rules of Standardization Documents". Drafting is scheduled. This document replaces GB/T 10668-2000 "Industrial Acetic Anhydride". Compared with GB/T 10668-2000, the main differences are structural adjustments and editorial changes. Aside from the modifications, the main technical changes are as follows:

a) The scope has been changed (see Chapter 1, Chapter 1 of the.2000 edition);

b) The technical requirements have been changed (see Table 1, Table 1 in the.2000 edition).

c) An additional test method for appearance has been added (see 5.2);

d) The spectrophotometric method for colorimetric determination has been removed, and the tristimulus value colorimetric method has been added (see 5.3,

4.1 in the.2000 edition).

e) The determination of acetic anhydride content has removed the titration method and changed to gas chromatography (see 5.4,

4.2 of the.2000 edition).

f) An additional test method for acetic acid content has been added (see 5.4);

g) The test method for iron content was changed (see 5.6,

4.4 in the.2000 edition), and atomic absorption spectrometry was removed (see.2000 edition). Appendix C);

h) The inspection rules have been changed (see Chapter 6, Chapter 5 of the.2000 edition);

i) The regulations for the marking have been changed (see 7.1.1,

5.4 Determination of acetic anhydride and acetic acid content

5.4.1 Principle Gas chromatography was employed. Under selected operating conditions, the sample was vaporized and separated via a capillary column, with detection performed using flame ionization. The detector (FID) is used for detection, and the area normalization method is used for quantification.

5.4.2 Reagents or materials

5.4.2.1 Nitrogen. Volume fraction not less than 99.99%, and should be purified by silica gel, molecular sieve or activated carbon before use.

5.4.2.2 Hydrogen. Volume fraction not less than 99.99%, and should be purified by silica gel, molecular sieve or activated carbon before use.

5.4.2.3 Air. Free from corrosive impurities, and degreased and dehydrated before use.

5.4.3 Instruments and Equipment

5.4.3.1 Gas chromatograph. Equipped with a flame ionization detector (FID) and a sample splitter; the overall performance of the instrument shall comply with GB/T 9722. The relevant regulations.

5.4.3.2 Recorder. Chromatography workstation. 5.4.3.3 10 μL microsyringe or autosampler.

5.4.4 Chromatographic column and chromatographic operating conditions The chromatographic column and operating conditions are shown in Table

2.Typical chromatograms and retention times of each component are shown in Figure A.1 and Table A.1 in Appendix A. He can use any chromatographic column and chromatographic operating conditions that achieve the same degree of separation.

5.4.5 Analysis Steps Start the gas chromatograph and adjust the instrument until it stabilizes. Then, pipette 1.0 μL of the sample and inject it rapidly into the gas chromatograph. Measure and record the results. Peak area of each component.

5.4.6 Result Calculation

5.5 Determination of Evaporation Residue Proceed according to GB/T 6324.2. The arithmetic mean of two parallel measurements is taken as the measurement result, and the absolute value of the difference between the two parallel measurements should not be greater than 0.0005%.

5.6 Determination of Iron Content The determination shall be performed according to GB/T 3049.Transfer 100 g of sample, accurate to

0.01 g, into a glass evaporating dish and heat in a boiling water bath. Evaporate to dryness. Dissolve the residue in 2 mL of hydrochloric acid solution (1.1). After the residue is completely dissolved, transfer the entire solution to a 100 mL volumetric flask. Wash the evaporating dish 2-3 times with an appropriate amount of water, and add the washings to the volumetric flask. Finally, dilute with water to the mark, shake well, and use for determination.

5.7 Determination of substances that reduce potassium permanganate The titration was performed according to the specifications in GB/T 6324.3.The sample volume was

5.0 mL, and the amount of potassium iodide solution added was

10.0 mL. The arithmetic mean of two parallel measurements is taken as the final result. The absolute value of the difference between the two parallel measurements should not exceed [a certain value]. 2 mg/100 mL.

6 Inspection Rules

6.1 All items specified in this document are type test items, among which appearance, color, acetic anhydride, acetic acid, and substances reducing potassium permanganate are... Factory inspection items. Under normal circumstances, type testing should be conducted at least once every 3 months. Type testing should be conducted under any of the following circumstances. Formula test.

a) When updating key production processes or equipment;

b) When there are significant changes in the main raw materials;

c) When production resumes after a shutdown;

d) When the factory inspection results differ significantly from the previous type inspection results.

6.2 Under the condition that the raw materials and processes remain unchanged, one storage tank or one tank truck shall be considered as one batch.

6.3 Sampling shall be conducted in accordance with GB/T 6678 and GB/T 6680.The total sampling volume shall be no less than 1 L, and shall be divided into two dry, clean glass containers. Seal the sample in a glass bottle, affix a label indicating the product name, batch number, sampling date, and sampler. One bottle is for analysis and testing, and the other is retained for future reference.

6.4 The test results shall be judged according to the rounding value comparison method in GB/T 8170.If any indicator of the test results fails to meet the requirements of this document... If the sample size is doubled, the product should be resampled and tested. If any item fails to meet the requirements of this document during the retest, the entire batch of products shall be deemed unqualified.

7.1 Marking

7.1.1 Industrial acetic anhydride packaging containers shall have clear, conspicuous, and firmly attached markings, which shall include at least the following.

a) Name of the manufacturer;

b) Product name;

c) Batch number or production date;

e) This document number;

f) The markings for "corrosive substances" and "flammable liquids" as specified in GB 190.

Note. See Appendix B for relevant hazard warnings.

7.1.2 Each batch of industrial acetic anhydride leaving the factory shall be accompanied by a certificate of quality, which shall include at least the following.

a) Name and address of the manufacturer;

b) Product name;

c) Batch number or production date;

d) Product model;

e) Product quality inspection results and conclusions;

f) This document number.