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

GB 25547-2010

**National food safety standards of food additives
dehydrogenation sodium acetate
(English Translation)**

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Foreword

Appendix A of this standard is a normative appendix.

National standards for food safety Food Additives Dehydrogenated Sodium Acetate

1 Scope

This standard applies to dehydroacetic acid and sodium hydroxide (or sodium carbonate or sodium bicarbonate) reaction prepared by the food additive dehydrogenated sodium acetate.

2 Normative reference documents

The documents cited in this standard are indispensable for the application of this standard. Any reference to the date of the document, only the date of the edition this applies to this standard. For undated references, the latest edition (including all amendments) applies to this standard.

3.1 Chemical name

3- (1-hydroxymethylene) -6-methyl-1,2-pyran-2,4 (3H) -dione

3.2 Molecular formula

C₈H₇NaO₄ · H₂O

3.4 Relative molecular mass

208.15 (according to the 2007 International Relative Atomic Quality)

4 Technical requirements

4.1

sensory requirements. should be consistent with the provisions of Table 1.

Table 1 sensory requirements

The project requires a test method Color white or near white Tissue state powder Take appropriate laboratory samples and place them in a clean, dry white porcelain dish in the natural light, visual observation

4.2

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

Table 2 Physical and chemical indicators

Item Index Test Method Sodium dehydroacetate (based on $C_8H_7NaO_4$, dry basis), w /% 98.0 to 100.5 Appendix A, A.4 the free base test was passed in Test Appendix A, A.5 Moisture, w /% 8.5 to 10.0 Appendix A, A.6 Chloride (in terms of Cl), w /% ≤ 0.011 Appendix A A.7 Arsenic (As)/(mg/kg) ≤ 3 Appendix A A.8 Lead (Pb)/(mg/kg) ≤ 2 Appendix A A.9 Appendix A (Normative appendix) Testing method A.1 Warning Some of the test procedures specified in the test method may result in a hazardous situation. Operators should take appropriate safety and protective measures.

A.2 General provisions Unless otherwise stated, only the reagents identified as analytical reagents and the tertiary water specified in GB/T 6682-2008 are used in the analysis.

Standard titration solution used in the test method, standard solution for the determination of impurities, preparations and articles, in the absence of other requirements, GB/T 601, GB/T 602 and GB/T 603.

A.3 Identification test Take about 1.5g of laboratory samples, dissolved in 10mL water, add 5mL hydrochloric acid solution (13), filter the crystal, with 10mL water Rinsed and dried at $75^\circ C$ to $80^\circ C$ for 4 h. The crystal should be melted at $109^\circ C$ to $111^\circ C$.

A.4 Determination of sodium dehydroacetate A.4.1 Methodological Summary Samples were treated with glacial acetic acid as the solvent, p-naphthol benzene as the indicator, titration with titanate titration of perchloric acid, according to the consumption of perchloric acid standard drops Rhithers. Refundurals. Rh- andigmaulates composition Usomen composition Results.1 Copyright Avithers. Rhithers. Refunds wanted composition Results Avg Points. Rhitheric composition Results A.4.2 Reagents and materials A.4.2.1 Glacial acetic acid.

Rh. Results Results Results compositions. Decision Tang Rhithers. and Rh'aint nights rounds. Refinding composition Results ,igma group draft model Results Rhithers.itheromeniation polymers views Rh calling A.4.3 Analysis steps Roundsy sws. Refers to rounds. Refithers to rounds.itheromenigma Rhithericulates Rhither Rh Take 25mL glacial acetic acid, add 1 drop p-naphthol benzene indicator solution, titrated with perchloric acid standard titration solution to blue, this has been neutralized to blue glacial acetic acid into the sample called Cone bottle, the sample is completely dissolved with perchloric acid standard titration solution titrated to the original blue is the end point.

A.4.4 Calculation of results the mass fraction w_1 of sodium dehydroacetate (calculated as $C_8H_7NaO_4$), expressed as a value in terms of formula (A.1) where.

V --- sample consumption perchloric acid standard titration solution (A.4.2.2) volume in milliliters (mL);

c - the exact value of the perchloric acid standard titration solution concentration in moles per liter (mol/L);

m - the mass of the sample, in grams (g);

The molar mass of sodium M-dehydroacetate ($C_8H_7NaO_4$) is in grams per mole (g/mol) ($M = 190.1$);

w_2 --- A.6 mass fraction of moisture measured,%.

The arithmetic mean of the results of two parallel measurements is the result of the report. The absolute difference between the two parallel determinations is not more than 0.2%.

A.5 Free base test

A.5.1 Reagents and materials A.5.1.1 Sulfuric acid standard titration solution. $c(1/2H_2SO_4) = 0.100\text{mol/L}$.

A.5.1.2 phenolphthalein indicator solution. 10g/L.

A.5.2 Analysis steps Weigh 1.0g of laboratory samples, accurate to 0.01g, dissolved in about 20mL of carbon dioxide-free water, add 2 drops of phenolphthalein indicator solution, the solution was Red, plus $0.4\text{mL} \pm 0.02\text{mL}$ sulfuric acid standard titration solution, shake, red should disappear.

A.6 Determination of moisture According to GB/T 6283 direct titration method.

The arithmetic mean of the results of two parallel measurements is the result of the report. The absolute difference between the two parallel determinations is not more than 0.2%.

A.7 Determination of Chloride A.7.1 Reagents and materials A.7.1.1 Nitric acid solution. 10.

A.7.1.2 Silver nitrate solution. 17 g/L.

A.7.1.3 Chloride (Cl) standard solution. 0.1 mg/mL.

A.7.2 Analysis steps Weigh 1g of laboratory samples, accurate to 0.01g, add about 30mL of water dissolved, while stirring with 9.5mL nitric acid solution, filtration, water Wash the combined washings and filtrate in a 100 mL colorimetric tube and add water to 50 mL as the test solution. Another take a color tube, add 1mL $\pm$ 0.02mL chloride (Cl) standard solution, add 30mL water, add 6mL nitric acid solution, add water to 50mL as the standard turbid solution. Minute Do not add 1mL silver nitrate solution in the two colorimetric tubes, mix well, avoid direct sunlight, place 5min. On a black background side or axis to observe, the turbidity of the test solution shall not be greater than the turbidity of the standard turbid solution.

A.8 Determination of arsenic According to GB/T 5009.76 arsenic spot method. Samples were processed by wet digestion. Measure the amount of 10.0mL sample solution (equivalent to 1.0g laboratory samples). Preparation of the standard solution. 3.0 mL of arsenic (As) standard solution (equivalent to 3.0 μ gAs) was removed from the pipette, with the same sample at the same time.

A.9 Determination of lead A.9.1 Colorimetric method (arbitration law) According to GB/T 5009.75. Before use, 1 mg/mL of the lead standard solution was diluted to 5 μ g/mL of lead standard solution. Measurement Timely draw 25 mL $\pm$ 0.02 mL sample solution (equivalent to 2.5 g laboratory sample) and 1 mL $\pm$ 0.02 mL lead standard solution (equivalent in 5 μ gPb), placed in 125mL separatory funnel, lead standard solution by adding 1% nitric acid solution to 25mL.

A.9.2 Atomic Absorption Spectrometry According to GB 5009.12. The sample treatment is carried out according to GB/T 5009.75. When using graphite furnace atomic absorption spectroscopy, visual samples the sample solution is appropriately diluted.