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GB/T 693-1996

Replacing GB 693-85

Chemical reagent - Sodium acetate trihydrate

化学试剂　三水合乙酸钠（乙酸钠）

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Chemical reagent - Sodium acetate trihydrate

Molecular formula: $CH_3C00Na \cdot 3H_2O$

Relative molecular mass: 136.08

1 Scope

This Standard specifies technical requirements, test methods, inspection rules, packaging and marks for chemical reagent - sodium acetate trihydrate.

2 Normative references

The following standards contain provisions which, through reference in this Standard, constitute provisions of this Standard. At the time of publication, the editions indicated are valid. All standards are subject to revision. The parties who are using this Standard shall explore the possibility of using the latest version of the following standards.

GB/T 601-88, *Chemical Reagent - Preparations of Standard Volumetric Solutions*

GB/T 602-88, *Chemical reagent - Preparations of standard solutions for impurity*

GB/T 603-88, *Chemical reagent - Preparations of reagent solutions for use in test methods*

GB/T 619-88, *Chemical reagent - Regulations for sampling and acceptance*

GB/T 3914-83, *Chemical reagents - The general rules of anodic stripping voltammetry*

GB 6682-92, *Water for laboratory use - Specifications* (eqv ISO 3696:1987)

GB/T 9723-88, *Chemical reagent - General rules for flame atomic absorption spectrometry*

GB/T 9724-88, *Chemical reagent - General rule for the determination of pH* (eqv ISO 6353-1:1982)

GB/T 9727-88, *Chemical reagent - General method for the determination of phosphate* (eqv ISO 6353-1:1982)

Where,

X - Percentage of mass of sodium acetate trihydrate, %;

V_1 - Volume of sodium hydroxide standard titration solution, mL;

V_2 - Volume of sodium hydroxide standard titration solution in blank test, mL;

c - Concentration of sodium hydroxide standard titration solution, mol/L;

136.1 - Molar mass of sodium acetate trihydrate [$M(CH_3COONa \cdot 3H_2O)$], g/mol;

m - Sample mass, g.

5.2 pH

Measure according to provisions of GB/T 9724.

5.3 Clarity test

Weigh 20g of sample. Dissolve in 100mLof water. Its turbidity must not exceed following clarity standards specified in HG/T 3-1168-78:

Guaranteed reagent No.2;

Analytical reagent No.3;

Chemical pure .....No.5.

5.4 Water insoluble matter

Weigh 50g of sample. Dissolve in 300mLof boiling water. Cool to room temperature. Measure according to provision of GB/T 9738.

5.5 Chloride

5.5.1 Preparation of test solution

Weigh 20g of sample. Dissolve in water. Dilute to 50mL.

5.5.2 Determination method

Take 5mLof test solution. Dilute to 10mL. Add 4.5mL of nitric acid solution (25%) to acidify. Measure according to provisions of GB/T 9729. Solution turbidity must not exceed standard comparison solution.

Preparation of standard comparison solution is to take chloride standard solution that contains following quantities:

Guaranteed reagent ..... 0.006mg Cl;

Guaranteed reagent, Analytical reagent ..... 0.01mg Al;

Chemical pure ..... 0.02mg Al.

Dilute to 10mL. Perform same treatment as same volume test solution.

5.9 Potassium

Measure according to provisions of GB/T 9723.

5.9.1 Instrument conditions

Light source: potassium hollow cathode lamp;

Wavelength: 766.5nm;

Flame: Acetylene-air.

5.9.2 Determination method

Weigh 5g of sample. Dissolve in water. Add 5mLof hydrochloric acid solution (20%). Dilute to 100mL.Take 10mL, four portions in total. Measure according to provisions of 6.2.2 in GB/T 9723-88.

5.10 Calcium

Measure according to provisions of GB/T 9723-88.

5.10.1 Instrument conditions

Light source: calcium hollow cathode lamp;

Wavelength: 422.7nm;

Flame: Acetylene-air.

5.10.2 Determination method

Weigh 25g of sample. Dissolve in water. Add 20mLof hydrochloric acid solution (20%). Dilute to 100mL. Take 20mL (take 8mLfor chemical pure), four portions in total. Measure according to provisions of 6.2.2 in GB/T 9723-88.

5.11 Iron

Take 5mLof test solution (5.5.1). Dilute to 10mL. Use hydrochloric acid solution (15%) to adjust pH value to 2. Measure according to provisions of GB/T 9739. Red of solution must not be darker than standard comparison solution.

Preparation of standard comparison solution is to take iron standard solution that contains following quantities:

Annex A

(Normative)

Treatment and regeneration method for strong acid cation exchange resin

A.1 Instruments

A.1.1 Exchange column material: glass tube or polyethylene tube.

A.1.2 Exchange column inner diameter: 10mm~20mm.

A.1.3 Resin bed height: about 400mm (recombinant resin volume accounts for 2/3 of exchange column height).

A.1.4 Resin particle size: 0.2mm~0.8mm.

A.2 Treatment method

Take an appropriate amount of strong acid cation exchange resin into a beaker (for dry resin, use saturated sodium chloride solution to soak first; then gradually dilute sodium chloride solution in case resin is broken from expanding). Use water to rinse till it is clear. Add water to soak 12h~24h to make it completely expanded. After draining water, soak it in 95% ethanol for 24h. Use water to rinse it till it is alcohol-free. Add hydrochloric acid solution (1+3) to soak 2h~3h. Use water to rinse it to neutral. Add sodium hydroxide solution (100g/L). Soak 2h~3h. Use water to rinse it to neutral. Then use hydrochloric acid solution (1+3) to rinse and soak 24h.Stir frequently. Use hydrochloric acid solution (1+3) to rinse three times.

Load resin that is processed as above into exchange column. Use 400mLof hydrochloric acid solution (1+3) to rinse resin at a flow of 10mL/min. Then use water to rinse till washing fluid if neutral. Use water to soak, for use.

A.3 Regeneration method

Move invalid strong acid cation exchange resin into a beaker. Use hydrochloric acid solution (1+3) to rinse three times. Soak 21h. Stir frequently. Discharge hydrochloric acid solution. Use hydrochloric acid solution (1+3) to rinse three times.

Load resin that is processed as above into exchange column. Use 400mLof hydrochloric acid solution (1+3) to rinse resin at a flow of 10mL/min. Then use water to rinse till dripping solution is neutral. Use water to soak, for use.

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