NY

NATIONAL STANDARD OF

THE PEOPLE'S REPUBLIC OF CHINA

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(Renamed from GB 8245-87)

Feed grade L-lysine monohydrochloride

饲料级 L-赖氨酸盐酸盐

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Foreword

This Standard was proposed by Ministry of Agriculture, Forestry and Fisheries of China.

Main drafting organizations of this Standard: China Veterinary Drug Administration, Guangxi Lysine Plant.

Main drafters of this Standard: Zhong Feng, Huang Huiqiang, Li Meitong.

This Standard is equivalent with Japan Feed Safety Law.

analytical reagents and distilled water, or water of corresponding purity.

In the absence of other requirements, the standard solution used shall be in accordance with GB 601-77 *Standard solution preparation method*; the impurity standard solution shall be in accordance with GB 602-77 *Impurity standard solution preparation method*; Preparation and products shall be prepared according to GB 603-77 *Preparation method for preparation and products*.

2.1 Identification

2.1.1 Reagents and solutions

2.1.1.1 Ninhydrin (HG 3-984-76): 0.1% (m/V) solution;

2.1.1.2 Silver nitrate (GB 670-77): 0.1 mol/l solution;

2.1.1.3 Nitric acid (GB 626-78): 1+9 solution;

2.1.1.4 Ammonium hydroxide (GB 631-77): 1+2 solution.

2.1.2 Identification method

2.1.2.1 Identification of amino acid

Weigh 0.1 g of specimen. Dissolve it in 100 ml of water. Take 5 ml of this solution. Add 1 ml of ninhydrin solution (2.1.1.1). After heating for 3 min, add 20 ml of water. Place it still for 15 min. The solution shall look reddish purple.

2.1.2.2 Identification of chloride

Weigh 1 g of specimen. Dissolve it in 10 ml of water. Add silver nitrate solution (2.1.1.2), white precipitate shall be generated. Take this precipitate and add dilute nitric acid (2.1.1.3). The precipitate shall not be solved. Take this precipitate added with excessive ammonium hydroxide solution, it shall dissolve.

2.2 Determination of lysine hydrochloride content

2.2.1 Reagents and solutions

2.2.1.1 Formic acid (HG 3-1296-80);

2.2.1.2 Glacial acetic acid (GB 676-78)

2.2.1.3 Mercuric acetate (HG 3-1096-77): 6% (m/V) glacial acetic acid solution;

2.2.1.4 α- Naphthol phenylmethanol indicator: 0.2% (m/V) glacial acetic acid solution;

$$\frac{m - m_1}{m} \times 100 \quad \cdots\cdots (3)$$

where,

m - specimen mass before drying, g;

m_1 - specimen mass after drying, g.

2.5 Determination of burning residue

2.5.1 Instruments and equipment

2.5.1.1 High temperature furnace: the controllable temperature is 550±20°C;

2.5.1.2 Porcelain crucible: 30 ml;

2.5.1.3 Dryer: using calcium chloride or silica gel as desiccant.

2.5.2 Determination method

In the porcelain crucible which has been burnt to constant weight, weigh 1 g of specimen, to the neatest of 0.0002 g. Carbonize it in the electric furnace carefully till there is no black smoke. Then transfer it to the high temperature furnace for 3 ~ 4 hour burning at 550°C. Take it out. Cool it for a while then put it into the dryer. Cool it to room temperature. Weigh it. Repeat burning for 1h and weigh till constant weight.

2.5.3 Calculation of results

The percentage of burning residue of L-lysine monohydrochloride shall be calculated according to equation (4):

$$\frac{m_2 - m_1}{m} \times 100 \quad \cdots\cdots (4)$$

where,

m - specimen mass, g;

m_1 - mass of empty constant weight crucible, g;

m_2 - mass of ash and crucible, g.

2.6 Determination of ammonium salt

2.6.1 Reagents and solutions

2.6.1.1 Magnesium oxide (HG 3-1294-80);

according to the provisions of GB 602-77 then accurately dilute it to 10 times.

2.7.2 Determination method

Weigh 1 g of specimen, to the nearest of 0.01 g. Place it in the porcelain crucible. Carefully carbonize it on the electric furnace. Burn it at 550°C for 3h (or use the residual ash after residue determination of sub-clause 2.5). Add 4 ml of hydrochloric acid (2.7.1.1) into the residue. Heat it on the water bath and evaporate to dry. Add 10 ml of hot water and dip for 2min. Transfer all into the Nessler color tube. Add 2 ml of acetic acid solution (2.7.1.2). Use water to dilute it to 50 ml. Add 2 drops of sodium sulfide solution (2.7.1.3). Place it for 5min.

Pipette 3 ml of lead standard solution (2.7.1.4). Take the same color as the sample as a standard. The color of the sample solution must not be deeper than this standard solution.

2.8 Determination of arsenic

2.8.1 Reagents and solutions

2.8.1.1 Hydrochloric acid (GB 622-77): 1+1 solution;

2.8.1.2 Potassium iodide (GB 1272-77): 16.5% (m/V) solution;

2.8.1.3 Stannous chloride (GB 638-78): 40% (m/V) hydrochloric acid solution, effective within one month;

2.8.1.4 Arsenic-free metal zinc (GB 2304-80);

2.8.1.5 Lead acetate skimmed cotton;

2.8.1.6 Mercury bromide test paper;

2.8.1.7 Arsenic standard solution: 0.01 mg of As contained in 1 ml. Prepare it according to the provisions of GB 602-77 then accurately dilute it to 10 times when required.

2.8.2 Determination method

Pipette 1 g of specimen, to the nearest of 0.01 g. Place it in a wild-mouth jar. Determine it according to the provisions of “1 Arsenic spot method” in GB 610-77 *Arsenic determination*. Its color must not be deeper than the standard one.

Pipette 2 ml of arsenic standard solution (2.8.1.7). Process it same with specimen simultaneously as standard.

exceed 25 kg.

4.2 The packaging shall have a solid mark, indicating product name, manufacture's name and address, lot number, approval file number, storage conditions, use method, net weight, exit-factory date, and words of "feed grade".

4.3 The exit-factory products shall be accompanied by a quality certificate, including product name, manufacturer's name and address, lot number, approval file number, product quality, reference of this Standard and laboratory technician's code.

4.4 This product shall be stored in a cool, dry, ventilated place.

4.5 During transport, it shall prevent rain and sun. It must not be stored or transported with toxic and hazardous substances.

Additional information:

This standard was proposed by Ministry of Agriculture, Forestry and Fisheries of the People's Republic of China.

This standard was responsibly drafted by China Veterinary Drug Monitoring Institute AND Guangxi Lysine Plant.

The main drafters of this standard are Zhong Feng, Huang Huiqiang and Li Meidong.

This standard equivalently adopts Japan's feed safety law.

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