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Method for determination of cadmium in feeds

饲料中镉的测定方法

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Method for determination of cadmium in feeds

1 Subject Contents and Scope of Application

This standard specifies the method for determination of cadmium in feeds.

This standard is applicable to the determination of cadmium in feeds.

2 Principle

Decompose the sample by dry ashing method. Under acid conditions and with the existence of potassium iodide, cadmium ions and iodine ions form a complex, which is then extraction-separated by methyl isobutyl ketone. Spray the organic phase on air-acetylene flame to atomize cadmium. Determine its absorbance in relation to the characteristic resonance line 228.8 nm and solve for the content of cadmium by comparison to the standard series.

3 Reagents and Solutions

Unless otherwise stated, all reagents used in this standard are analytically pure, and the water is redistilled water.

3.1 Nitric acid (GB 626), guaranteed.

3.2 Hydrochloric acid (GB 622), guaranteed.

3.3 Potassium iodide solution, 2 mol/L: weigh 332 g of potassium iodide (GB 1272), dissolve in water, and dilute with water to 1 000 mL.

3.4 Ascorbic acid solution, 5%: weigh 5 g of ascorbic acid (C₆H₈O₆), dissolve in water, and dilute with water to 100 mL (prepare before use).

3.5 Hydrochloric acid solution, 1 mol/L: weigh 10 mL of hydrochloric acid (3.2), add in 110 mL of water and shake well.

3.6 Methyl isobutyl ketone [CH₃COCH₂CH(CH₃)₂, HG 3-1118].

3.7 Cadmium standard stock solution: weigh 0.100 0 g of high purity cadmium metal (Cd, 99.99%), put into a 250 mL Erlenmeyer flask, add in 10 mL of 1:1 nitric acid, dissolve completely by heating on an electric hot plate, dry up, take away and allow to cool down. Add in 20 mL of 1:1 hydrochloric acid and 20 mL of water, dissolve by heating, take away and allow to cool down, Then, transfer to a 1 000 mL volumetric flask, dilute with water to

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