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

GB/T 12687.3-2010

Replacing GB/T 12687.8-1990

**Chemical analysis methods of rare earth nitrate for growth
regulator for plant -- Part 3: Determination of the water
insoluble matter content -- Gravimetry**

硝酸稀土植物生长调节剂化学分析方法 第3部分：水不溶物量的测定 重量法
(English Translation)

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Foreword

GB/T 12687 "analysis of rare earth nitrate plant growth regulator chemical" is divided into three parts.

--- Part 1. arsenic, mercury, lead, cadmium, chromium content - Inductively Coupled Plasma Mass Spectrometry;

--- Part 2. Determination of chlorine content;

--- Part 3. Determination of the amount of water insoluble gravimetric method.

This is Part 3.

This Part replaces GB/T 12687.8-1990 "Determination of water insoluble matter content of agricultural chemical analysis of rare earth nitrate gravimetric method." this section compared with the GB/T 12687.8-1990, have the following main changes.

--- Measurement range limit adjustment from the 1.0 to 0.3 percent;

--- Increasing the precision of the terms;

--- Increased quality assurance and control provisions;

--- Standard text made editorial changes.

This part of the National Standardization Technical Committee of rare earth (SAC/TC229) centralized.

This part by the Beijing Nonferrous Metal Research Institute, China Nonferrous Metals Industry Institute of Standards Metrology and Quality is responsible for drafting.

This section is Baotou Steel Rare Earth Hi-Tech Company, Jiangyin Jiahua Advanced Material Resources Co., Ltd. participated in the drafting.

1 Scope

GB/T 12687 provisions of this part of the rare earth nitrate plant growth regulator agents Determination of the amount of water insoluble.

This section applies to the determination of rare earth nitrate plant growth regulator agent in water-insoluble matter content. Measuring range. 0.10% to 0.30%.

2 Principle of the method

The sample is dissolved in water, insoluble matter was separated by filtration which is calculated by the amount of water insoluble mass value after drying.

3 Instrument

3.1

electric oven. $200\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$.

3.2

Analysis of balance. a sense of the amount of 0.1mg.

3.3

glass sand funnel (filter funnel acid). P16.

4 Sample

Weighing the sample immediately after the opening.

5.1 Sample

Weigh the sample (4) 20g, accurate to 0.0001g.

5.2 Determination of the number of Weigh two samples (5.1) parallel determination of the mean value.

5.3 Determination

5.3.1

The sample (5.1) into 600mL beaker, 500mL about $60\text{ }^{\circ}\text{C}$ hot water, cover the dish table. Heated to a boil in $60\text{ }^{\circ}\text{C} \sim 80\text{ }^{\circ}\text{C}$ incubated 45min, intermediate Stir a few times to completely dissolve the soluble salts, is cooled.

5.3.2

with the constant weight of glass sand funnel (3.3) by suction. Beaker with warm water 3 to 5 times, water insoluble 7-8 times.

5.3.3

The glass sand funnel (3.3) together with water-insoluble substance is placed in the oven (3.2) at 105 °C ~ 110 °C drying 1h, desiccator the cooling to room temperature, and weighed.

5.3.4 5.3.3 Repeat until the difference between two adjacent mass does not exceed 1mg.

6 Calculation and presentation of analysis results

According to equation (1) calculate the water insoluble mass fraction (%).

w (water insoluble) = $m_1 - m_0$ x 100 (1) where.

Mass m_1 --- glass filter and water-insoluble material in grams (g);

m_0 --- glass filter mass in grams (g);

M --- quality of the sample in grams (g).