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

GB/T 12687.2-2010

Replacing GB/T 12687.2-1990

**Chemical analysis methods of rare earth nitrate for growth
regulator for plant -- Part 2: Determination of chlorine content**

硝酸稀土植物生长调节剂化学分析方法 第2部分：氯量的测定

(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 2.

This Part replaces GB/T 12687.2-1990 "Determination of chlorine content of agricultural chemical analysis of rare earth nitrate Mercurimetric method." this section compared with the GB/T 12678.2-1990, the main changes are as follows.

--- Silver nitrate turbidimetric method and potentiometric titration method instead of the amount of mercury;

--- Measured by the scope of 0.10 percent to 5.00 percent to 0.0050% - 10.00%;

--- Increasing the precision of the terms;

--- Increased quality assurance and control provisions.

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.

Part 1 was drafted by the Beijing Nonferrous Metal Research Institute.

Method 1 of this section by the Ganzhou Qiandong Rare Earth Group Co., Ltd., Yixing Willy into the new Rare Earth 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 chlorine content.

This section applies to the determination of rare earth nitrate plant growth regulator agent chlorine content. Method 1 Measurement range. 0.0050% to 0.50%;

Method 2 Measurement range. > 0.50% to 10.00%.

1 silver nitrate turbidimetry

2 Principle of the method

Sample dilute nitric acid dissolved in dilute nitric acid medium, chloride ions to form silver chloride and silver colloids in the presence of a stabilizer glycerol, Measured at 430nm wavelength spectrophotometer. Richard on the working curve corresponding amount of chlorine.

3 Reagents and materials

3.1

nitric acid (11).

3.2

nitric acid (13).

3.3

silver nitrate (5g/L).

Glycerin 3.4 (11).

Secondary ion exchanged water to 3.5. before use chlorine ion (of Cl-) test. Amount of water in 20mL colorimetric tube, add 2mL nitrate Silver acid (3.3), shaking gently, incubated at 60 °C water bath 10min, without visual turbidity before use.

3.6

Storage chlorine standard solution. Weigh 1.6485g by 400 °C ~ 450 °C calcined and cooled to room temperature in the dryer sodium chloride (preferably Grade pure) in 500mL beaker, add 200mL water dissolved. Moved into 1000mL volumetric flask and dilute to volume, and mix. This solution 1mL 1mg containing chlorine.

3.7

chlorine standard solution. Pipette 10.00mL chlorine standard stock solution (3.6) in 500mL flask, diluted with water to the mark.

This solution 1mL 20.00μg containing chlorine.

4 Instrument

Spectrophotometer.

5 Sample

Weighing the sample immediately after the opening.

6.1 Sample

Table 1. Weigh the sample (5), accurate to 0.0001g.

Table 1

Chlorine content /% Sample volume/g total volume of solution/mL volumetric dispensing/mL
 supplemented with nitric acid (3.1) Volume/mL 0.0050 to 0.010 10.00 2.00 50 -> 0.010 to
 0.050 1.00 5.00 50 1 > 0.050 - 0.20 0.50 5.00 100 2