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**NONFERROUS METALS INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

YS/T 667.1-2008

**The testing methods for chemical alumina. Part 1:
Determination of cadmium, chromium and vanadium in
aluminum hydroxide for filler and pseudo bodhmite by ICP-AES**

化学品氧化铝化学分析方法 第1部分：填料用氢氧化铝及拟薄水铝石中镉、铬、
钒含量的测定电感耦合等离子体发射光谱法

(English Translation)

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Table of Contents

Foreword

1 Scope

2 Principle of the method

3 Reagents

3.1 Hydrochloric acid 1 + 1 (excellent pure by sub-boiling second distillation)

4 Instrument

5 Sample

6 Step, Analysis

6.1 Sample

Foreword

YS/T 667 "Chemical alumina chemical analysis methods," is divided into four parts.

--- Part 1. filler aluminum hydroxide and quasi boehmite of cadmium, chromium, vanadium content - Inductively coupled plasma optical emission Spectroscopy;

--- Part 2. filler aluminum hydroxide and quasi boehmite arsenic, mercury, lead content was measured by hydride generation - inductively coupled plasma Daughters emission spectrometry;

Part --- Section 3. 4A zeolite cadmium, chromium, vanadium content - Inductively coupled plasma atomic emission spectrometry;

Part --- Chapter 4. 4A zeolite arsenic, mercury content was measured by hydride generation - inductively coupled plasma emission spectrometry.

This is Part 1.

Appendix A of this section is an informative annex.

The non-ferrous metal part by the National Standardization Technical Committee and centralized.

This standard by the Aluminum Corporation of China Shandong Branch, China Nonferrous Metals Industry Institute of Standards Metrology and Quality is responsible for drafting.

1 Scope

This section provides cadmium, chromium, vanadium content determination with aluminum hydroxide filler and quasi boehmite in.

This section applies to the filler aluminum hydroxide and boehmite Determination of cadmium, chromium, vanadium intended. Measurement range. $5 \times 10^{-5}\%$ ~ $5 \times 10^{-3}\%$; Cr $3 \times 10^{-4}\%$ ~ $5 \times 10^{-3}\%$; V $3 \times 10^{-4}\%$ ~ $5 \times 10^{-3}\%$.

2 Principle of the method

The sample is dissolved in hydrochloric acid, in dilute hydrochloric acid medium, directly into the argon plasma excitation source, subjected to spectral measurement, with matrix matching method school Positive impact on the determination of the substrate.

3 Reagents

Unless otherwise indicated in the analysis using only deionized water or equivalent purity.

3.1 Hydrochloric acid 1 + 1 (excellent pure by sub-boiling second distillation)

3.2 Cadmium standard solution. This standard stock solution (1mg/mL) provided by the National Research Center.

3.3 Chromium standard solution. This standard stock solution (1mg/mL) provided by the National Research Center.

3.4 vanadium standard solution. This standard stock solution (1mg/mL) provided by the National Research Center.

3.5 mixed standard solution. accurate Pipette respectively 1.00mL cadmium standard solution (3.2), 1.00mL chromium standard solution (3.3), 1.00mL vanadium Standard solution (3.4) in 100mL flask, add 20mL of hydrochloric acid (3.1), and then diluted with deionized water to a secondary volume, and mix. this Concentration of the mixed standard solution of cadmium, chromium, vanadium are. $10\mu\text{g/mL}$.

3.6 aluminum matrix solution. Weigh 13.2350g pure aluminum (> 99.999%) in the beaker, 250mL of hydrochloric acid (3.1), to a low-temperature heating Dissolve completely. Transferred to 500mL volumetric flask, cooled to room temperature, diluted with deionized water to a secondary volume, and mix. This oxide-containing solution 1L Aluminum 50g.

3.7 high purity argon (> 99.999%).

4 Instrument

Full Spectrum Direct Reading plasma emission spectrometer.

5 Sample

Samples at $105\text{ }^{\circ}\text{C} \pm 5\text{ }^{\circ}\text{C}$ oven baking 1h. Placed in a desiccator, cooled to room temperature, and immediately weighed.

6.1 Sample

Weigh 0.5g sample (5), accurate to 0.0001g.

6.2 Determination of the number of Weigh duplicate samples, parallel determination of the mean value.