

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

SN/T 0481.11-2011

**Inspection of bauxite for import and export. Part 11:
Determination of titanium dioxide content. Hydrogen peroxide
spectrophotometric method**

进出口矾土检验方法 第11部分：二氧化钛含量的测定 过氧化氢分光光度法
(English Translation)

Issued on: May 31, 2011

Implemented on: December 1, 2011

Issued by: General Administration of Customs

Table of Contents

- Foreword
- 1 Scope
- 2 Normative references
- 3 Method summary
- 4 Reagents and materials

Foreword

SN/T 0481 "Importers alumina test methods" standard series is divided into 12 parts.

- Part 1. mandelic acid with concealed titanium aluminum oxide content of EDTA;
- Part 2. Determination of silicon dioxide content - Molybdenum blue spectrophotometric method;
- Part 3. sulfosalicylic acid spectrophotometric determination of the amount of ferric oxide;
- Part 4. Direct determination with EDTA calcium oxide and magnesium oxide content;
- Part 5. combustion - neutralization method for the determination of sulfur content;
- Part 6. Rapid Determination of bulk density bauxite;
- Part 7. Determination of ferric oxide, titanium oxide, silicon dioxide, calcium oxide spectrometry inductively coupled plasma atomic emission, MgO content;
- Part 8. High Frequency Burning - Determination of sulfur content infrared absorption method;
- Part 9. 1,10 phenanthroline photometric method for the determination of free iron content;
- Part 10. silicon dioxide, ferric oxide, aluminum oxide, calcium oxide, magnesium oxide, potassium oxide, silica and phosphorus pentoxide Determination of Titanium X-ray fluorescence spectrometry;
- Part 11. Determination of titanium dioxide content of hydrogen peroxide spectrophotometry;
- Part 12. Determination of porosity and water absorption.

This is Part 11 SN/T 0481 "Importers alumina test methods" series of standards.

This section drafted in accordance with GB/T 1.1-2009 given rules.

This section proposed and managed by the National Certification and Accreditation Administration Committee.

This section is drafted. Tianjin People's Republic of China Exit Inspection and Quarantine.

1 Scope

This section specifies the spectrophotometric method alumina import and export of titanium dioxide content.

This section applies to the import and export of titanium dioxide alumina determination. Measurement range. 0.2% to 10%.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

GB/T 2007.1 bulk minerals sampling and sample preparation General manual sampling methods GB/T 2007.2 bulk minerals sampling and sample preparation General manual sample preparation method GB/T 2009 bauxite bulk sampling and sample preparation method GB/T 6379.1 measurement methods and results of Accuracy (trueness and precision) Part 1 General principles and definitions

3 Method summary

Sample mixed molten flux, with nitric acid - sulfuric acid mixed acid leaching in sulfuric acid - phosphoric acid mixed media, tetravalent titanium and hydrogen peroxide Health Yellow complex masking iron phosphate, at a wavelength of 430nm at measuring the absorbance.

4 Reagents and materials

Unless otherwise indicated, the analysis uses only recognized as analytical grade reagents and distilled water or equivalent purity.

4.1

mixed flux. anhydrous potassium carbonate and anhydrous borax mass ratio (1/1) grind to a fine powder, stored in the grinding jar.

4.2

Titanium dioxide, the benchmark reagents.

4.3

high-purity titanium metal purity $\geq 99.9\%$.

4.4

ammonium sulfate, AR.

4.5

nitric acid ($\rho = 1.42\text{g/mL}$).

4.6

sulfate ($\rho = 1.84\text{g/mL}$).

4.7

phosphoric acid ($\rho = 1.50\text{g/mL}$).

4.8

nitric acid - a mixed solution of sulfuric acid. nitric acid (4.5) sulfate (4.6) water = 10,012,188.

4.9

sulfuric acid - a mixed solution of phosphoric acid. sulfuric acid (4.6) phosphoric acid (4.7) water = 250,100,650.

4.10

hydrogen peroxide (19). 30% hydrogen peroxide was diluted to 10mL with water 100mL.

4.11

sulfuric acid (11).

4.12

nitric acid (14).

4.13

sulfuric acid (595).