

ICS 77.120.99
CCS H 14;D43

YS

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

YS/T 555.5-2009

Replacing YS/T 555.5-2006

**Methods for chemical analysis of molybdenum concentrate.
Determination of phosphorus content. Phosphorus
molybdenum blue spectrophotometry**

钼精矿化学分析方法磷量的测定磷钼蓝分光光度法

(English Translation)

Issued on: December 4, 2009

Implemented on: June 1, 2010

Issued by: Ministry of Industry and Information Technology

Table of Contents

- Foreword
- 1 Scope
- 2 Method summary
- 3 Reagents
- 4 Instrument
- 5 Sample
- 6 Step, Analysis
 - 6.1 Sample

Foreword

YS/T 555 "Methods for chemical analysis of molybdenum concentrate" includes 11 parts.

YS/T 555.1 Methods for chemical analysis of molybdenum concentrate molybdenum content of lead molybdate assay gravimetric method YS/T 555.2 Methods for chemical analysis of molybdenum concentrate - Determination of silicon dioxide content and weight of molybdenum blue spectrophotometric method YS/T 555.3 Methods for chemical analysis of molybdenum concentrate arsenic content - Atomic Fluorescence Spectrometry and DDTC-Ag spectrophotometry YS/T 555.4 Methods for chemical analysis of molybdenum concentrate tin content - Atomic Fluorescence Spectrometry YS/T 555.5 Methods for chemical analysis of molybdenum concentrate phosphorus content of molybdenum blue spectrophotometric determination of phosphorus YS/T 555.6 Methods for chemical analysis of molybdenum concentrate copper, lead, bismuth, zinc content - Flame Atomic Absorption Spectrometry YS/T 555.7 Methods for chemical analysis of molybdenum concentrate calcium oxide content by flame atomic absorption spectrometry YS/T 555.8 Methods for chemical analysis of molybdenum concentrate - Determination of tungsten content - Thiocyanate spectrophotometric method YS/T 555.9 Methods for chemical analysis of molybdenum concentrate the amount of potassium and sodium contents - Flame Atomic Absorption Spectrometry YS/T 555.10 Methods for chemical analysis of molybdenum concentrate rhenium contents - Thiocyanate spectrophotometric Determination of YS/T 555.11 Methods for chemical analysis of molybdenum concentrate oil and moisture content of the total weight of the law this is Part 5.

"The method concentrates - Determination of phosphorus content" in this section instead of YS/T 555.5-2006 (formerly GB/T 15079.5-1994).

This portion of YS/T 555.5-2006 compared to the main changes are as follows.

--- Change the sample processing method;

--- Change the absorption wavelength;

--- Increasing the precision of the terms;

--- Text format has been modified, supplemented with quality assurance and control provisions.

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

This section is responsible for drafting unit. Jinduicheng Molybdenum Group Co., Ltd., China Nonferrous Metals Industry Institute of Standards and Metrology and Quality.

Participated in the drafting of this section. Shizhuyuan Nonferrous Metals Co., Ltd., Luoyang Luanchuan Molybdenum Group Co., Ltd.

1 Scope

This section provides the determination of phosphorus content of molybdenum concentrate.

This section applies to the determination of phosphorus content of molybdenum concentrate. Measurement range. 0.002% to 0.1%.

2 Method summary

Samples with hydrochloric acid, nitric acid dissolution, heightening acid white smoke at 1.2mol/L ~ perchloric acid acidity 1.3mol/L, add salt bismuth catalysis, Plus ammonium molybdate solution, ascorbic acid solution to form a phosphomolybdate monitoring the absorbance was measured at 690nm in a spectrophotometer.

3 Reagents

3.1

hydrochloride (rho1.19g/mL).

Nitrate 3.2 (rho1.42g/mL).

3.3

Ammonia (rho0.90g/mL).

3.4

perchloric acid (rho1.76g/mL).

3.5

ammonium molybdate solution (50g/L). Weigh 5g of ammonium molybdate was dissolved in

50mL of water until completely dissolved, diluted with water to 100mL.

3.6

bismuth nitrate solution (10g/L). Weigh 1g 25mL bismuth nitrate dissolved in nitric acid, until completely dissolved, diluted with water to 100mL.

3.7

Ethanol - ascorbic acid solution (10g/L). Weigh 1g of ascorbic acid dissolved in 40mL water, add ethanol diluted to 100mL, mix Uniform (when using the existing service).

3.8

Phosphorus standard stock solution. Weigh 0.4393g advance at 100 °C ~ 105 °C drying 1h potassium dihydrogen phosphate (excellent pure) in a beaker are dissolved in water and transferred to 1000mL volumetric flask, diluted with water to the mark. This solution 1mL containing 100µg phosphorus.

3.9

Phosphorus standard solution. Pipette 50.00mL phosphorus standard stock solution (3.8) in 500mL flask, diluted with water to the mark.

This solution 1mL containing 10µg phosphorus.

4 Instrument

Spectrophotometer.

5 Sample

Specimens shall be pre-stripped oil and moisture, particle size less than 0.090mm. After the sample should be 100 °C ~ 105 °C baking 1h, dry place Dryer to cool to room temperature.

6.1 Sample

Table 1 sample was weighed, accurate to 0.0001g. Two independent measurement results averaged.

Table 1

Phosphorus mass fraction /% sample weight/g 0.0020 to 0.010 1.00 > 0.010 to 0.050 0.50 > 0.050 - 0.10 0.20