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

GB 2466-1981

Replacing GB/T 2466.1-1996; GB/T 2466.3-1996

**Pyrites and concentrate -- Determination of copper content --
Flame atomic absorption spectrometric and
spectrophotometric methods
(English Translation)**

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Foreword

This standard replaces GB/T 2466.1-1996 "Determination of copper content in pyrite and concentrate - Part 1. Flame atomic absorption spectrometry" and GB/T 2466.3-1996 "Determination of copper content in pyrite and concentrate - Part 3. BOC spectrophotometry," the two standards merged into a standard, divided into two methods.

This standard is proposed by China Petroleum and Chemical Industry Association.

This standard is approved by the Chemical Industry Standardization Technical Committee of mineral ore centralization.

This standard was drafted by Blue Sea Design Institute.

1 Scope

This standard specifies the flame atomic absorption spectrometry and spectrophotometric determination of pyrite and sulfur concentrate copper content.

This standard applies to pyrite and sulfur concentrate products in the determination of copper content of 0.01% to 1%.

2 Normative references

The following documents contain provisions which, through reference in this standard and become the standard terms. All dated references, which are subsequently owned Amendments (not including errata content) or revisions do not apply to this standard, however, encourage the parties to reach an agreement based on this standard research. Whether you can use the latest versions of these files. For undated references, the latest version applies to this standard.

GB/T 6003.1 woven wire mesh test sieve (GB/T 6003.1-1997, eqv ISO 3310-1:1990) GB/T 6682 analytical laboratory water specifications and test methods (GB/T 6682-1992, neq ISO 3696:1987) GB/T 9721 chemical reagent molecular absorption spectrophotometry (UV and visible light part) GB/T 9723 chemical reagent flame atomic absorption spectrometric method

3 Sample

The sample was passed 150µm test sieve (GB/T 6003.1), dried at 100 °C ~ 105 °C to constant weight, placed in a desiccator, cooled to Room temperature.

4 General provisions

The water used in this standard should be consistent with the three water GB/T 6682 specifications; listed reagents except for special provisions, are analytically pure reagents.

5.1.1 Method summary

The sample was dissolved with hydrochloric acid-nitric acid, air-acetylene flame was used in a dilute hydrochloric acid medium, at a wavelength of 324.8 nm of an atomic absorption spectrometer Absorbance was measured to determine the copper content by the working curve method.

5.1.2 Reagents and solutions

5.1.2.1

Hydrochloric acid.

5.1.2.2

hydrochloric acid solution. 1 +1.

5.1.2.3

Nitric acid.

5.1.2.4

Copper standard solution. 1.00mg/mL. Weigh 1.0000g of high-purity metallic copper in 250mL beaker, add 40mL nitric acid Solution (1 + 1), cover the watch glass, heated to dissolve completely, cooled, transferred to 1000mL volumetric flask, diluted with water to the mark, shake. This solution Liquid copper (Cu) content of 1.00mg/mL.

5.1.2.5

copper standard solution. 100µg/mL. Pipette 50.0mL copper standard solution (5.1.2.4) in 500mL volumetric flask, diluted with water Release to the mark, shake well. This solution contains copper (Cu) amount 100µg/mL.

5.1.3 Instruments

Flame atomic absorption spectrometer. should be consistent with the provisions of GB/T 9723.