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INDUSTRY STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

SN/T 3809-2014

Determination of potassium content in potassium chloride and potassium sulphate - X-ray fluorescence spectrometry

氯化钾和硫酸钾中钾含量测定 X射线荧光光谱法

(English Translation)

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Foreword

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

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

This standard was drafted. People's Republic of China Manzhouli Exit Inspection and Quarantine.

1 Scope

This standard specifies the method for determination of potassium chloride and potassium sulfate potassium (K2O) content using wavelength dispersive X-ray fluorescence spectrometer.

This standard applies to potassium chloride and potassium sulfate potassium (K2O) content determination. Measurement range (mass fraction) are shown in Table 1.

Table 1 measurement range potassium chloride and potassium sulfate potassium content

Sample type Measurement range (mass fraction) /% Potassium chloride 53.07 ~ 63.18 Potassium 38.61 ~ 54.05

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.

JJG810 wavelength dispersive X-ray fluorescence spectrometer

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3 Method Summary

The samples were prepared as borate glass melt samples. Samples measuring element and the effect of potassium is characterized by X-ray fluorescence spectrum Strength, calculated based on the calibration curve K (of K2O) content.

4 Reagents

Unless otherwise indicated in the analysis using only recognized as analytical reagents.

4.1
lithium tetraborate and lithium metaborate mixed flux (67.33), X-ray fluorescence dedicated reagent. Before use at 650 °C burning 4h, then in the drier cooled storage.

4.2
bromide.

4.3
potassium chloride, high purity reagents or standard material. Burning 6h at 500 °C, then cooled in a desiccator.

4.4
potassium, high purity reagents or standard material. Baking at 130 °C 2h, then cooled in a desiccator.

4.5
Sodium chloride, baked at 105 °C 2h, then cooled in a desiccator.

4.6
sodium sulfate, drying at 105 °C 2h, then cooled in a desiccator.

4.7
anhydrous calcium sulfate, at 500 °C burning 2h, cooled in a desiccator.

4.8
magnesia, calcined at 1000 °C 1h, then placed in a desiccator, weighed immediately after cooling.

4.9
saturated solution of lithium bromide. The lithium bromide (4.2) dissolved in water to saturation, and filtered.

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4.10

mixture A. Take 7g sodium chloride (4.5), 2g of anhydrous calcium sulfate (4.7) and 1g of magnesium oxide (4.8), grinding mix, stored in a desiccator.

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