ICS 27.120.30
CCS F 46

NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 11848.10-2025

Replacing GB/T 11848.10-1999

Methods for analysis of uranium ore concentrate - Part 10: Determination of sulfur - Infrared absorption method

铀矿石浓缩物分析方法 第10部分：硫的测定 红外吸收法

Issued on: October 5, 2025 **Implemented on: May 1, 2026**

Issued by: State Administration for Market Regulation;
Standardization Administration of China

Table of Contents

1 Scope

2 Normative references

3 Terms and Definitions

5 Reagents or materials

6 Instruments and Equipment

6.2 Electronic balance, with a graduation value of

10 Determination of Sulfur by Infrared Absorption Method Warning

Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part

1.Structure and Drafting Rules of Standardization Documents". Drafting. This document is Part 10 of GB/T 11848, "Analytical Methods for Uranium Ore Concentrates". GB/T 11848 has published the following... part.

1.Determination of Uranium by Ferrous Sulfate Reduction-Potassium Dichromate Titration;

2.Determination of Nitric Acid-Insoluble Uranium by Spectrophotometry;

3.Gravimetric determination of extractable organic compounds;

4.Determination of Arsenic and Mercury by Hydride Generation-Atomic Fluorescence Spectrometry;

5.Determination of Carbonate by Infrared Absorption Spectroscopy;

6.Determination of Fluorine by Ion-Selective Electrode Method;

7.Determination of Halogens - Volhard Method;

8.Determination of Moisture Content by Gravimetric Method;

9.Determination of Silicon by Spectrophotometry;

10.Determination of Sulfur by Infrared Absorption Spectroscopy;

11.Determination of Thorium by Inductively Coupled Plasma Mass Spectrometry;

12.Determination of Boron by Inductively Coupled Plasma Mass Spectrometry;

1 Scope

GB/T 11848.10-2025 is the Chinese national standard on methods for analysis of uranium ore concentrate - part 10: determination of sulfur - infrared absorption method, in the field of energy and heat transfer engineering. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 5 October 2025 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 May 2026. Classification: ICS 27.120.30, CCS F 46. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This document describes a method for determining sulfur in uranium ore concentrates. This document applies to the determination of sulfur in uranium ore concentrates. Determination range (based on sulfate). 0.12%-15%.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included. For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies. This document.

GB/T 10268 Uranium Ore Concentrates

3 Terms and Definitions

The terms and definitions defined in GB/T 10268 apply to this document.

4.Principles The sample is heated and burned in a furnace with an oxygen flow. The generated sulfur dioxide is carried by the oxygen to the detector of the infrared analyzer. Sulfur absorbs infrared light energy of a specific wavelength, and the absorbed energy is directly proportional to the sulfur dioxide concentration, thus determining the sulfur content.

5 Reagents or materials

5.1 Copper oxide, linear.

5.2 Potassium sulfate (K2SO4). Superior grade reagent, with a content of not less than 99.9%, dried at 105°C for 2 hours, cooled and stored in a desiccator.

5.3 Oxygen, with a purity of not less than 99.95%.

5.4 Porcelain boats were preheated at 1000°C for 4 hours, then cooled and stored in a desiccator.

6 Instruments and Equipment

6.1 Infrared absorption carbon-sulfur meter, temperature not lower than 1400°C, detector sensitivity better than 0.01%.

6.2 Electronic balance, with a graduation value of

0.1 mg.

10 Determination of Sulfur by Infrared Absorption Method Warning

---Personnel using this document should have practical experience working in a formal laboratory. This document does not cover all possible safety issues. Users are responsible for taking appropriate safety and health precautions and ensuring compliance with relevant national regulations. This document relates to... Toxic and hazardous waste should be collected and stored centrally, and the responsibility for various types of waste should be strictly implemented in accordance with the relevant regulations and technical indicators of the national environmental protection administration. Responsibility should be handled centrally.