

ICS 73.060.20

CCS D32



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

GB/T 14949.2-2021

Replacing GB/T 14949.2-1994

**Manganese ores - Determination of nickel content - Flame
atomic absorption spectrometric method**

锰矿石 镍含量的测定 火焰原子吸收光谱法

Issued on: August 20, 2021

Implemented on: March 1, 2022

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

Table of Contents

- 1 Scope
- 2 Normative references
- 3 Terms and definitions
- 4 Principle
- 5 Reagents

Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for Standardization Work Part

1. Structure and Drafting Rules of Standardization Documents" Drafting. This document is Part 2 of GB/T 14949. GB/T 14949 has released the following parts.

- Manganese ore chemical analysis method determination of chromium content;
- Determination of nickel content of manganese ore by flame atomic absorption spectrometry;
- Manganese ore chemical analysis method determination of barium oxide content;
- Manganese ore chemical analysis method determination of vanadium content;
- Determination of titanium content in manganese ore Diantipyrylmethane spectrophotometric method;
- Manganese ore chemical analysis method determination of copper, lead and zinc content;
- Manganese ore chemical analysis method sodium and potassium determination;
- Gravimetric method for the determination of wet storage water of manganese ore;
- Manganese ore chemical analysis method determination of sulfur content;
- Manganese ore chemical analysis method determination of cobalt content;
- Determination of carbon content of manganese ore by gravimetric method and infrared absorption method;
- Gravimetric method for determination of combined water content of manganese ore. This document replaces GB/T 14949.2-1994 "Manganese Ore Chemical Analysis Method for the Determination of Nickel Content", and GB/T 14949.2-1994 In comparison, in addition to

structural adjustments and editorial changes, the main technical changes are as follows:

1 Scope

GB/T 14949.2-2021 is the Chinese national standard on manganese ores - determination of nickel content - flame atomic absorption spectrometric method, in the field of mining and minerals. 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 20 August 2021 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 March 2022. Classification: ICS 73.060.20, CCS D32. 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 specifies the flame atomic absorption method for the determination of nickel content in manganese ore. This document is applicable to the determination of nickel content in manganese ore. Measuring range (mass fraction). 0.005%~0.200%.

2 Normative references

The contents of the following documents constitute the indispensable clauses of this document through normative references in the text. Among them, dated quotations Only the version corresponding to that date is applicable to this document; for undated reference documents, the latest version (including all amendments) is applicable to This document.

GB/T 2011 Bulk manganese ore sampling and sample preparation method

GB/T 6682 Analytical laboratory water specifications and test methods

GB/T 7728 General Rules of Flame Atomic Absorption Spectrometry for Chemical Analysis of Metallurgical Products

3 Terms and definitions

There are no terms and definitions that need to be defined in this document.

4 Principle

The sample is decomposed with hydrochloric acid and nitric acid. Filter the insoluble residue and keep the filtrate as the main liquid. Burn the residue and filter paper together, use hydrofluoric acid and sulfur Acid treatment. It is melted with sodium carbonate, the melt is dissolved in the hydrochloric acid solution, and the resulting solution is combined with the main liquid. Spray the sample solution into an air-acetylene flame, use a nickel hollow

cathode lamp as the light source, and measure at the wavelength of 232.0nm at the atomic absorption spectrometer The amount of absorbance.

5 Reagents

Unless otherwise specified, only use analytical reagents.

5.1 Water, GB/T 6682, Class II.

5.2 Anhydrous sodium carbonate, solid.

5.3 Hydrochloric acid, $\rho=1.19\text{g/mL}$.

5.4 Hydrochloric acid (1 1).

5.5 Hydrochloric acid (1 4).

5.6 Hydrochloric acid (1 50).