



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

GB/T 14949.5-2021

**Manganese ores - Determination of titanium content -
Diantipyrylmethane spectrophotometric method**

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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 5 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 14949.5-1994 "Manganese Ore Chemical Analysis Method Determination of Titanium Content", and GB/T 14949.5-1994

In comparison, in addition to structural adjustments and editorial changes, the main technical changes are as follows.

- a) Titanium dioxide has been added (see 5.11);
- b) Metal titanium has been added (see 5.12);
- c) Deleted the measurement of wet storage water (see 6.1 of the.1994 edition);
- d) Increase the requirement for the sample to be dried in the oven (see Chapter 7);
- e) The requirement for the number of measurements has been added (see 8.2);
- f) Modified the calculation of analysis results (see 9.1, Chapter 7 of.1994 edition), and added the determination and expression of analysis results (see 9.2);
- g) A common test of precision between laboratories was carried out, and the "allowable difference" was replaced by the statistically obtained repeatability limit r and reproducibility limit R
(See Chapter 10, Chapter 8 of the.1994 edition);
- h) Added test report (see Chapter 11);
- i) The test result acceptance flow chart has been added (see Appendix C).

This document uses the redrafting method to modify and adopt ISO 7723.1984 "Determination of titanium content of manganese ore and manganese concentrate 4.4' diamine pyrrolidone

Alkane Spectrophotometry.

Compared with ISO 7723.1984, this document has many adjustments in structure. Appendix A lists this standard and ISO 7723.1984.

Compared with the chapter number change comparison table.

Compared with ISO 7723.1984, this document has technical differences.

The set vertical single line (I) is marked, and a list of the corresponding technical differences and their reasons is given in Appendix B.

Introduction

As there are many elements involved in the detection process of manganese ore, the applicable scope and applicable methods of the elements are different. to ensure that Manganese ore testing standards are convenient and accurate. We have established a national support for manganese ore testing based on the analysis methods for different elements of manganese ore.

---GB/T 14949.1.Determination of chromium content in chemical analysis methods of manganese ore. The purpose is to measure the chromium content in manganese ore, using Diphenylcarbazide photometric method and silver persulfate titration method.

---GB/T 14949.2.Determination of nickel content in manganese ores by flame atomic absorption spectrometry. The purpose is to measure nickel in manganese ore Content, using flame atomic absorption spectrometry.

---GB/T 14949.3.Method for chemical analysis of manganese ore. Determination of barium oxide content. The purpose is to measure the barium oxide content in manganese ore The amount is based on the barium sulfate gravimetric method.

---GB/T 14949.4.Method for chemical analysis of manganese ore. Determination of vanadium content. The purpose is to measure the vanadium content in manganese ore, using Phosphotungstovanadic acid photometric method.

---GB/T 14949.5.Determination of titanium content in manganese ore Diantipyrylmethane spectrophotometric method. The purpose is to measure manganese ore The content of titanium in it was determined by the diantipyrylmethane spectrophotometric method.

---GB/T 14949.6.Methods for chemical analysis of manganese ore Determination of copper, lead and zinc content. The purpose is to measure copper and lead in manganese ore And zinc content, using flame atomic absorption spectrometry.

---GB/T 14949.7.Methods for chemical analysis of manganese ore. Determination of sodium and potassium content. The purpose is to measure the sodium and potassium content in manganese ore Quantities, using flame atomic absorption spectrometry.

---GB/T 14949.8.Gravimetric method for the determination of wet storage water in manganese ore. The purpose is to measure the amount of sodium wet storage water in manganese ore,

Use the weight method.

---GB/T 14949.9.Determination of sulfur content in chemical analysis methods of manganese ore. The purpose is to measure the sulfur content in manganese ore, using Barium sulfate gravimetric method and combustion iodine titration method.

---GB/T 14949.10.Method for chemical analysis of manganese ore. Determination of cobalt content. The purpose is to measure the cobalt content in manganese ore, using Nitroso R salt photometric method.

---GB/T 14949.11.Determination of carbon content of manganese ore by gravimetric method and infrared absorption method. The purpose is to measure the manganese ore The carbon content is based on the gravimetric method and infrared absorption method.

---GB/T 14949.12.Gravimetric method for determination of combined water content of manganese ore. The purpose is to measure the combined water content of manganese ore The amount, using the weight method.

Determination of titanium content in manganese ore

Diantipyrylmethane Spectrophotometry

Warning---Personnel using this document should have formal laboratory work experience. This document does not indicate all possible safety issues

question. The user is responsible for taking appropriate safety and health measures and ensuring compliance with the conditions stipulated by relevant national laws and regulations.

1 Scope

This standard specifies the diantipyrylmethane spectrophotometric method for the determination of titanium content.

This standard applies to the determination of titanium content in manganese ore, manganese concentrate and sintered manganese ore. Measuring range (mass fraction). 0.01%~0.50%.

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