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

GB/T 8152.1-2006

**Methods for chemical analysis of lead concentrates -- Determination of lead content --
EDTA titration method after acid digestion (ISO 13545: 200E Lead sulfide concentrates --
Determination of lead content -- EDTA titration method after acid digestion, ID**

(English Translation)

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Foreword

GB/T 8152-2006 Methods for Chemical Analysis of Lead Concentrates has a total of

10 parts:

- GB/T 8152.1 Methods for Chemical Analysis of Lead Concentrates -
Determination of Lead Content - EDTA Titration Method after Acid Digestion;
- GB/T 8152.2 Methods for Chemical Analysis of Lead Concentrates -
Determination of Lead Content - Back Titration of EDTA after Precipitation of
Lead Sulfate;
- GB/T 8152.3 Methods for Chemical Analysis of Lead Concentrates -
Determination of Aluminum (III) Oxide Content - Chrome azurol S
Spectrophotometric Method;
- GB/T 8152.4 Methods for Chemical Analysis of Lead Concentrates -
Determination of Zinc Content - EDTA Titration Method;
- GB/T 8152.5 Methods for Chemical Analysis of Lead Concentrates -
Determination of Arsenic Content - Atomic Fluorescence Spectrometer Method;

---GB/T 8152.7 Methods for Chemical Analysis of Lead Concentrates -
Determination of Copper Content - Flame Atomic Absorption Spectrometric
Method;

---GB/T 8152.9 Methods for Chemical Analysis of Lead Concentrates -
Determination of Magnesium Oxide Content - Flame Atomic Absorption
Spectrometric Method;

---GB/T 8152.10 Methods for Chemical Analysis of Lead Concentrates -
Determination of Silver and Gold Content - Fire Assay and Flame Atomic
Absorption Spectrometric Method Using Scorification or Cupellation;

---GB/T 8152.11 Methods for Chemical Analysis of Lead Concentrates -
Determination of Mercury Content - Atomic Fluorescence Spectrometer Method;

---GB/T 8152.12 Methods for Chemical Analysis of Lead Concentrates -
Determination of Cadmium Content - Flame Atomic Absorption Spectrometric
Method.

In which, GB/T 8152.6-1987 Methods for Chemical Analysis of Lead Concentrates -
the Polarographic Method for the Determination of Bismuth Content and GB/T 8152.8-

1987 Methods for Chemical Analysis of Lead Concentrates - The DTPM

Spectrophotometric Method for the Determination of Bismuth Content remain
unchanged.

This is Part 1.

This Part equivalently adopts ISO 13545:2000 (E) Lead Sulfide Concentrates -
Determination of Lead Content - EDTA Titration Method after Acid Digestion (English
version).

This Part equivalently translates ISO 13545:2000 (E).

For ease of use, this Part makes the following editorial modifications:

a) Use decimal point "." to replace comma ",", which is used as a decimal point
in the international standard;

- b) Use "this Part" to replace "this international standard";
- c) The title of the standard is modified in accordance with the Chinese customs;
- d) The Cover, Contents, Foreword and Introduction of the international standard are deleted.

This Part serves as a replacement of GB/T 8152.1-1987 Methods for Chemical Analysis of Lead Concentrates - The Na₂EDTA Volumetric Method for the Determination of Lead Content. Due to the development of the international analytical technology, the previous standard has been out of date. In comparison with GB/T 8152.1-1987, there are the following changes:

- a) This Part bases on the previous national standard, which merely determines lead content in lead sulfate, and adds the determination of lead content in the filtrate and insoluble slag, which improves the accuracy of the method.
- b) This Part adds general normative elements, such as: "Scope" and "Normative References", and technical normative elements, such as: "Precision" and "Test Report", so as to further complete the standard text.
- c) Appendix A "Determination of Lead Content when Barium Content Exceeds 1/10 of Lead Content" in the previous national standard is deleted.
- d) Appendix A "Procedure for the Preparation and Determination of the Mass of a Pre-dried Test Portion", Appendix B "Flowchart of the Procedure for the Acceptance of Analytical Values for Test Samples" and Appendix C "Derivation of Precision Equations" are added.

In this Part, Appendix A and Appendix B are normative; Appendix C is informative.

This Part was proposed by China Nonferrous Metals Industry Association.

This Part shall be under the jurisdiction of National Technical Committee on Nonferrous Metals of Standardization Administration of China.

Methods for Chemical Analysis of Lead Concentrates -
Determination of Lead Content - EDTA Titration
Method after Acid Digestion

WARNING - this Part may involve hazardous materials, operations and equipment. It is the responsibility of the user of this Part to establish appropriate health and safety practices and determine the applicability of regulatory limitations prior to use.

1 Scope

This Part specifies a lead sulfate precipitation EDTA titrimetric method after acid decomposition for determination of the lead content of lead sulfide concentrates. The method is applicable to lead sulfide concentrates having lead content in the range 50% (m/m) to 80% (m/m). The method is not applicable to lead concentrates containing more than 1% (m/m) of barium. This Standard is an arbitration analysis method.

2 Normative References

The following normative documents contain certain provisions which, through reference in this text constitute provisions of this Part. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this Part are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 385-1:1984 Laboratory glassware - Burettes - Part 1: General requirements

ISO 648:1977 Laboratory glassware - One-mark pipettes

ISO 1042:1998 Laboratory glassware - One-mark volumetric flasks

ISO 3696:1987 Water for analytical laboratory use - Specification and test methods

ISO 4787:1984 Laboratory glassware - Volumetric glassware - Methods for use and testing of capacity

ISO 9599:1991 Copper, lead and zinc sulfide concentrates - Determination of

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