AS 4030.1—2002
ISO 13545:2000

Australian Standard™

Lead sulfide concentrates—Chemical analysis

Part 1: Determination of lead content—EDTA titration method after acid digestion

[ISO title: Lead sulfide concentrates—Determination of lead content—EDTA titrimetric method after acid digestion]

Standards Australia

This Australian Standard was prepared by Committee MN-005, Copper, Lead, Zinc, Gold and Silver Ores and Concentrates. It was approved on behalf of the Council of Standards Australia on 16 November 2001 and published on 4 January 2002.

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Australasian Institute of Mining and Metallurgy

CSIRO Minerals

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Part 1: Determination of lead content—EDTA titration method after acid digestion

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PREFACE

This Standard was prepared by the Standards Australia Committee MN-005, Copper, Lead, Zinc, Gold and Silver Ores and Concentrates as part of a programme of standardizing methods for the determination of elements of commercial interest in such materials.

The Standard supersedes AS 4030.1—1992, *Methods for the analysis of lead sulfide concentrates*, Part 1: *Determination of lead content—Acid dissolution solvent extraction EDTA titration method.*

The objective of this Standard is to provide those involved in the analysis of lead sulfide concentrates with a standardized method of determining lead content supported by precision data obtained from an inter-laboratory test programme.

This Standard is identical with and has been reproduced from ISO 13545:2000, *Lead sulfide concentrates—Determination of lead content—EDTA titration method after acid digestion*, which has been prepared by ISO/TC 183 Copper, Lead and Zinc Ores and Concentrates. Australia holds the Chairmanship and Secretariat of ISO/TC 183 and has made a significant contribution to the preparation of ISO 13545.

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ISO		AS	
9599	Copper, lead and zinc sulfide concentrates—Determination of hygroscopic moisture in the analysis sample—Gravimetric method	2816	Copper, lead and zinc sulfide concentrates—Determination of hygroscopic moisture in the analysis sample—Gravimetric method
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Lead sulfide concentrates—Chemical analysis

Part 1: Dertermination of lead content—EDTA titration method after acid digestion

1 Scope

This International Standard 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.

2 Normative references

The following normative documents contain certain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard 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 hygroscopic moisture in the analysis sample — Gravimetric method*.

ISO Guide 35:1989, *Certification of reference materials — General and statistical principles*.

3 Principle

Decomposition of the test portion in nitric and sulfuric acids and bromine, and removal of arsenic, antimony and tin by hydrobromic acid treatment. Separation of lead from interfering elements by precipitation of lead sulfate. Dissolution of the precipitate in an ammonium acetate solution. Titration of the solution with EDTA using xylenol orange as the indicator.