AS ISO 15247:2016
ISO 15247:2015

AS ISO 15247:2016

Australian STANDARD

Zinc sulfide concentrates—Determination of silver content—Acid dissolution and flame atomic absorption spectrometric method

STANDARDS Australia

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- Australasian Institute of Mining and Metallurgy
- Australian X-ray Analytical Association
- CSIRO
- Minerals Council of Australia

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Australian Standard®

Zinc sulfide concentrates—Determination of silver content—Acid dissolution and flame atomic absorption spectrometric method

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PREFACE

This Standard was prepared by the Standards Australia Committee MN-005, Copper, Lead, Zinc and Nickel Ores and Concentrates, to supersede AS 2678.4—2002.

The objective of this Standard is to specify an acid dissolution and flame atomic absorption spectrometric method for the determination of silver content of zinc sulfide concentrates.

This Standard is identical with, and has been reproduced from ISO 15247:2015 *Zinc sulfide concentrates—Determination of silver content—Acid dissolution and flame atomic absorption spectrometric method*.

As this Standard is reproduced from an International Standard, the following applies:

(a) In the source text 'this International Standard' should read 'this Australian Standard'.

(b) A full point substitutes for a comma when referring to a decimal marker.

References to International Standards should be replaced by references to Australian Standards, as follows:

Reference to International Standard		*Australian Standard*	
ISO		AS	
1042	Laboratory glassware—One-mark volumetric flasks	2164	Laboratory glassware—One-mark volumetric flasks
9599	Copper, lead and zinc sulfide concentrates—Determination of hygroscopic moisture content of the analysis sample—Gravimetric method	2816	Copper, lead and zinc sulfide concentrates—Determination of hygroscopic moisture in the analysis sample—Gravimetric method

Only normative references that have been adopted as Australian Standards have been listed.

The terms 'normative' and 'informative' have been used in this Standard to define the application of the annexes to which they apply. A 'normative' annex is an integral part of a Standard, whereas an 'informative' annex is only for information and guidance.

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AUSTRALIAN STANDARD

Zinc sulfide concentrates—Determination of silver content—Acid dissolution and flame atomic absorption spectrometric method

1 Scope

This International Standard specifies an acid dissolution and flame atomic absorption spectrometric method for the determination of silver content of zinc sulfide concentrates.

The method is applicable to the determination of silver in zinc sulfide concentrates containing up to 60 % (*m*/*m*) zinc in the form of zinc blende and related materials.

The method is applicable to silver contents from 10 g/t to 500 g/t.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 385, *Laboratory glassware — Burettes*

ISO 648, *Laboratory glassware — Single-volume pipettes*

ISO 1042, *Laboratory glassware — One-mark volumetric flasks*

ISO 3696, *Water for analytical laboratory use — Specification and test methods*.

ISO 4787, *Laboratory glassware — Volumetric instruments — Methods for testing of capacity and for use*

ISO 9599, *Copper, lead, zinc and nickel sulfide concentrates — Determination of hygroscopic moisture content of the analysis sample — Gravimetric method*

3 Principle

Decomposition of the concentrate in hydrochloric and nitric acids. Dissolution of the digestion residue in hydrochloric acid and measurement by flame atomic absorption at 328,1 nm.

4 Reagents

During the analysis, use only reagents of recognized analytical grade and water that complies with grade 2 of ISO 3696.

4.1 Silver metal, minimum 99,99 % purity.

4.2 Nitric acid, (ρ_{20} 1,42 g/ml), chloride content < 0,5 mg/ml.

4.3 Nitric acid, (500 ml/l).

To 250 ml of water carefully add, with stirring, 250 ml of nitric acid (4.2).

4.4 Hydrochloric acid, (ρ_{20} 1,16 g/ml to 1,19 g/ml).