AS 5006.1:2019

Australian STANDARD

Silver and silver bearing alloys

Part 1: Determination of silver content (0.1 % to 99.9 %)—Titrimetric (potentiometric) method

currently in preview, click buy full versi

STANDARDS Australia

AS 5006.1:2019

This Australian Standard® was prepared by CH-010, Analysis Of Metals. It was approved on behalf of the Council of Standards Australia on 29 January 2019.

This Standard was published on 1 March 2019.

The following are represented on Committee CH-010:

Australasian Institute of Mining and Metallurgy
Australian Chamber of Commerce and Industry
Bureau of Steel Manufacturers of Australia
Geoscience Australia
International Copper Association Australia
Jewellers Association of Australia
Materials Australia
National Association of Testing Authorities Australia

This Standard was issued in draft form for comment as DR AS 5006.1:2018.

urrently in preview, click buy full versi

Keeping Standards up-to-date

Ensure you have the latest versions of our publications and keep up-to-date about Amendments, Rulings, Withdrawals, and new projects by visiting:
www.standards.org.au

ISBN 978 1 76072 384 2

Australian STANDARD

Silver and silver bearing alloys

Part 1: Determination of silver content (0.1 % to 99.9 %)—Titrimetric (potentiometric) method

First published as AS 5006.1—2002.
This edition 2019.

COPYRIGHT

© Standards Australia Limited 2019

All rights are reserved. No part of this work may be reproduced or copied in any form or by any means, electronic or mechanical, including photocopying, without the written permission of the publisher, unless otherwise permitted under the Copyright Act 1968 (Cth).

currently in preview, click buy full version

Preface

This Standard was prepared by Standards Australia Committee CH-010, Analysis of Metals, to supersede AS 5006.1—2002, *Silver and silver bearing alloys, Part 1: Determination of silver content (0.1% to 99.9%)—Titrimetric (potentiometric) method*.

The objective of this Standard is to set out a titrimetric method for the determination of silver content in silver and silver bearing alloys in the range 0.1 % to 99.9 % silver with < 20 % gold and platinum group metals. If palladium or tungsten are present they need to be complexed. This method is not suitable for alloys containing mercury.

This Standard is Part 1 of a series comprising:

AS 5006.1, *Silver and silver bearing alloys, Part 1: Determination of silver content (0.1% to 99.9%)—Titrimetric (potentiometric) method* (this Standard)

AS 5006.2, *Silver and silver bearing alloys, Part 2: Determination of silver content (1% to 99%)—Gravimetric (fire assay) method*

The following laboratories participated in the inter-laboratory test program to provide the data given in Table 1:

Australian Gold Refineries

Golden West

Misima Mines Pty Ltd

The term “informative” has been used in this Standard to define the application of the appendix to which it applies. An “informative” appendix is only for information and guidance.

urrently in preview, click buy full versi

© Standards Australia Limited 2019

Contents

currently in preview, click buy full version

Australian Standard®

Silver and silver bearing alloys

Part 1: Determination of silver content (0.1 % to 99.9 %)—Titrimetric (potentiometric) method

WARNING — THE USE OF THIS STANDARD MAY INVOLVE HAZARDOUS MATERIALS, OPERATIONS AND EQUIPMENT. THIS STANDARD DOES NOT PURPORT TO ADDRESS ALL OF THE SAFETY PROBLEMS ASSOCIATED WITH ITS USE. IT IS THE RESPONSIBILITY OF THE USER OF THIS STANDARD TO ESTABLISH APPROPRIATE SAFETY AND HEALTH PRACTICES AND DETERMINE THE APPLICABILITY OF REGULATORY LIMITATIONS PRIOR TO USE.

1 Scope

This Standard sets out a titrimetric procedure for the determination of silver content in silver and silver bearing alloys in the range 0.1 % to 99.9 % silver with < 20 % gold and platinum group metals. If palladium or tungsten are present they need to be complexed.

This method is not suitable for alloys containing mercury.

NOTE 1 Recommended methods of sampling silver and silver alloys for use with this Standard are provided in Appendix A.

NOTE 2 The presence of the following elements may cause difficulties in obtaining a homogeneous sample: iron, antimony, arsenic, lead or nickel.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document.

NOTE Documents referenced for informative purposes are listed in the Bibliography.

AS 2162.1, *Verification and use of volumetric apparatus, Part 1: General—Volumetric glassware*

AS 2162.2, *Verification and use of volumetric apparatus, Part 2: Guide to the use of piston-operated volumetric apparatus (POVA)*

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

3 Definitions

For the purposes of this Standard, the definitions below apply.

3.1
bullion
an alloy of gold and silver with variable amounts of one or more of the base metals

3.2
laboratory sample
a sample as prepared for sending to the laboratory and intended for inspection or testing

3.3
may
indicates the existence of an option

© Standards Australia Limited 2019

currently in preview, click buy full version