

Australian Standard™

**Recommended practice for metal
analysis by electrochemical
stripping techniques**

This Australian Standard was prepared by Committee CH/10, Analysis of Metals. It was approved on behalf of the Council of Standards Australia on 18 September 1998 and published on 5 December 1998.

The following interests are represented on Committee CH/10:

Australasian Institute of Mining and Metallurgy
Australasian Railway Association
Australian Aluminium Council
Australian Chamber of Manufactures
Copper Development Association of Australia
National Association of Testing Authorities, Australia
The Royal Australian Chemical Institute
University of New South Wales

Review of Australian Standards. *To keep abreast of progress in industry, Australian Standards are subject to periodic review and are kept up to date by the issue of amendments or new editions as necessary. It is important therefore that Standards users ensure that they are in possession of the latest edition, and any amendments thereto.*

Full details of all Australian Standards and related publications will be found in the Standards Australia Catalogue of Publications; this information is supplemented each month by the magazine 'The Australian Standard', which subscribing members receive, and which gives details of new publications, new editions and amendments, and of withdrawn Standards.

Suggestions for improvements to Australian Standards, addressed to the head office of Standards Australia, are welcomed. Notification of any inaccuracy or ambiguity found in an Australian Standard should be made without delay in order that the matter may be investigated and appropriate action taken.

This Standard was issued in draft form for comment as DR 97434.

STANDARDS AUSTRALIA

RECONFIRMATION

OF

AS 3844—1998

Recommended practice for metal analysis by electrochemical stripping techniques

RECONFIRMATION NOTICE

Technical Committee CH-010 has reviewed the content of this publication and in accordance with Standards Australia procedures for reconfirmation, it has been determined that the publication is still valid and does not require change.

Certain documents referenced in the publication may have been amended since the original date of publication. Users are advised to ensure that they are using the latest versions of such documents as appropriate, unless advised otherwise in this Reconfirmation Notice.

Approved for reconfirmation in accordance with Standards Australia procedures for reconfirmation on 27 June 2016.

The following are represented on Technical Committee CH-010:

Australian Aluminium Council
Bureau of Steel Manufacturers of Australia
International Copper Association Australia
International Precious Metals Institute
National Association of Testing Authorities Australia

NOTES

Australian Standard™

**Recommended practice for metal
analysis by electrochemical
stripping techniques**

First published as AS 3844—1998.

PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee CH/10, Analysis of Metals. This Standard is the result of a consensus among representatives on the Joint Committee to produce it as an Australian Standard.

The objective of this Standard is to provide general guidance to facilitate selection of instrumentation and techniques for metal analysis by electrochemical stripping techniques.

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.

© Copyright — STANDARDS AUSTRALIA

Users of Standards are reminded that copyright subsists in all Standards Australia publications and software. Except where the Copyright Act allows and except where provided for below no publications or software produced by Standards Australia may be reproduced, stored in a retrieval system in any form or transmitted by any means without prior permission in writing from Standards Australia. Permission may be conditional on an appropriate royalty payment. Requests for permission and information on commercial software royalties should be directed to the head office of Standards Australia.

Standards Australia will permit up to 10 percent of the technical content pages of a Standard to be copied for use exclusively in-house by purchasers of the Standard without payment of a royalty or advice to Standards Australia.

Standards Australia will also permit the inclusion of its copyright material in computer software programs for no royalty payment provided such programs are used exclusively in-house by the creators of the programs.

Care should be taken to ensure that material used is from the current edition of the Standard and that it is updated whenever the Standard is amended or revised. The number and date of the Standard should therefore be clearly identified.

The use of material in print form or in computer software programs to be used commercially, with or without payment, or in commercial contracts is subject to the payment of a royalty. This policy may be varied by Standards Australia at any time.

CONTENTS

	<i>Page</i>
SECTION 1 SCOPE AND GENERAL	
1.1 SCOPE	5
1.2 PRINCIPLE	6
1.3 REFERENCED DOCUMENTS	6
1.4 DEFINITIONS	6
1.5 REAGENT CONTAINERS	7
1.6 SAFETY PRECAUTIONS	7
SECTION 2 INSTRUMENTATION	
2.1 INSTRUMENT DESIGN	8
2.2 POTENTIOSTAT	8
2.3 WAVEFORM GENERATOR	9
2.4 GALVANOSTAT	9
2.5 MEASUREMENT VESSEL	9
2.6 PURGE SYSTEM	9
2.7 SAMPLE MIXER	9
2.8 ELECTRODES	9
2.9 DATA ACQUISITION AND SIGNAL PROCESSING SYSTEM	12
2.10 CHEMICAL INTERFERENCES	12
2.11 SETTING UP THE INSTRUMENT	13
SECTION 3 PREPARATION FOR ANALYSIS	
3.1 GENERAL	14
3.2 SAMPLE COLLECTION AND STORAGE	14
3.3 PRETREATMENT OF THE LABORATORY SAMPLE	14
SECTION 4 THE ACCUMULATION PROCESS	
4.1 ACCUMULATION	15
4.2 REST PERIOD	15
SECTION 5 THE STRIPPING PROCESS	
5.1 ANODIC STRIPPING VOLTAMMETRY (ASV)	16
5.2 ADSORPTIVE STRIPPING VOLTAMMETRY (AdSV)	17
5.3 ADSORPTIVE CATALYTIC STRIPPING VOLTAMMETRY (AdCatSV)	17
5.4 STRIPPING POTENTIOMETRY (SP)	17
5.5 CONSTANT CURRENT STRIPPING POTENTIOMETRY (CCSP)	17
5.6 ADSORPTIVE CONSTANT CURRENT STRIPPING POTENTIOMETRY (AdCCSP)	17
SECTION 6 CALIBRATION AND ANALYSIS	
6.1 REAGENTS	18
6.2 VOLUMETRIC GLASSWARE	18
6.3 REFERENCE MATERIALS	18
6.4 QUALITY CONTROL	18

This is a free preview. Purchase the entire publication at the link below:

-
- ▶ Looking for additional Standards? Visit [SAI Global Infostore](#)
 - ▶ Subscribe to our [Free Newsletters](#)
 - ▶ Do you need to [Manage Standards Collections Online?](#)
 - ▶ Learn about [LexConnect, All Jurisdictions, Standards referenced in Australian legislation](#)
 - ▶ Do you want to [know when a Standard has changed?](#)
 - ▶ Create safe work processes for the workplace with our [Safe Work Method Statements](#)

Learn about other SAI Global Services:

- ▶ [LOGICOM Military Parts and Supplier Database](#)
- ▶ [Metals Infobase Database of Metal Grades, Standards and Manufacturers](#)
- ▶ [Materials Infobase Database of Materials, Standards and Suppliers](#)
- ▶ [Database of European Law, CELEX and Court Decisions](#)

Need to speak with a Customer Service Representative - [Contact Us](#)