Australian Standard™

Lead and lead alloys—Determination of impurities and alloying elements—Atomic emission spectrometric method

Standards Australia

This Australian Standard was prepared by Committee CH/10, Analysis of Metals. It was approved on behalf of the Council of Standards Australia on 31 July 2000 and published on 4 September 2000.

The following interests are represented on Committee CH/10:

Australasian Institute of Mining and Metallurgy

Australasian Railway Association

Australian Aluminium Council

Australian Industry Group

National Association of Testing Authorities, Australia

University of New South Wales

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This Standard was issued in draft form for comment as DR 99234.

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First published as AS 4862—2000.

Published by Standards Australia International Ltd
GPO Box 5420, Sydney, NSW 2001, Australia

ISBN 0 7337 3543 6

PREFACE

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

The objective of this Standard is to provide a method for the determination of impurities and alloying elements in lead and lead alloys by arc/spark atomic emission spectrometry. The performance data included in this Standard was provided by the following companies:

(i) Pasminco Port Pirie Smelter Pty Ltd.

(ii) Universal Inspection and Testing Company Pty Ltd, N.S.W.

(iii) Universal Inspection and Testing Company Pty Ltd, Vic.

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.

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1 SCOPE

This Standard specifies a method for the determination of impurities and alloying elements in lead and lead alloys by arc/spark atomic emission spectrometry. The method is applicable to the following elements in the concentration ranges shown below:

Element	Concentration range, %
Aluminium	0.0001 – 0.05
Antimony	0.0002 – 14.0
Arsenic	0.0003 – 3.0
Bismuth	0.0001 – 1.5
Cadmium	0.0001 – 0.2
Calcium	0.0001 – 1.2
Cobalt	0.0001 – 0.02
Copper	0.0001 – 0.6
Gold	0.0003 – 0.1
Indium	0.0001 – 0.1
Iron	0.0001 – 0.02
Magnesium	0.0001 – 0.5
Manganese	0.0001 – 0.02
Nickel	0.0001 – 0.02
Selenium	0.0005 – 0.06
Silver	0.0001 – 1.0
Sodium	0.0001 – 0.01
Strontium	0.0001 – 0.1
Sulphur	0.0005 – 0.02
Tellurium	0.0002 – 0.3
Thallium	0.0001 – 0.5
Tin	0.0001 – 50
Zinc	0.0001 – 0.1

2 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS
2534 Lead and lead alloys—Sampling for chemical and spectrochemical analysis