

Australian Standard™

**Recommended practice for inductively
coupled plasma-mass spectrometry
(ICP-MS)**

Part 1: Principles and techniques



This Australian Standard was prepared by Committee CH-016, Spectroscopy. It was approved on behalf of the Council of Standards Australia on 7 July 2005. This Standard was published on 9 September 2005.

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This Standard was issued in draft form for comment as DR 04068.

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First published as AS 4873.1—2005.

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Published by Standards Australia GPO Box 476, Sydney, NSW 2001, Australia

ISBN 0 7337 6848 2

PREFACE

This Standard was prepared by the Standards Australia Committee CH-016, Spectroscopy.

The objective of this Standard is to describe principles, techniques and operating procedures involved in the setting up and operation of inductively coupled plasma mass spectrometry for chemical analysis. The recommendations in this Standard are intended to apply to Australian standard methods for inductively coupled plasma-mass spectrometry.

This Standard is part of a series as follows:

AS

4873 Recommended practice for inductively coupled plasma-mass spectrometry (ICP-MS)

4873.1 Part 1: Principles and techniques

4873.2 Part 2: Quantitative determinations

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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STANDARDS AUSTRALIA

Australian Standard

Recommended practice for inductively coupled plasma-mass spectrometry (ICP-MS)

Part 1: Principles and techniques

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard sets out recommendations and operating procedures in the application of inductively coupled plasma-mass spectrometry (ICP-MS) to chemical analysis. This Standard refers principally to quadrupole based instruments, but some clauses are applicable to other types of ICP-MS instruments such as magnetic sector and time-of-flight mass spectrometers.

This Standard should be read in conjunction with the instrument manufacturer's recommendations and AS 3641.1.

NOTE: An overview of possible spectral interferences is given in Appendix A.

1.2 REFERENCED DOCUMENTS*

The documents below are referred to in this Standard:

AS

- | | |
|--------|---|
| 1940 | The storage and handling of flammable and combustible liquids |
| 2772 | Radiofrequency radiation |
| 2772.2 | Part 2: Principles and methods of measurement—300 kHz to 100 GHz |
| 2850 | Chemical analysis—Interlaboratory test programs—For determining precision of analytical method(s)—Guide to the planning and conduct |
| 2929 | Test methods—Guide to the format, style and content |
| 3641 | Recommended practice for atomic emission spectrometric analysis |
| 3641.1 | Part 1: Principles and technique |
| 3641.2 | Part 2: Inductively coupled plasma excitation |

AS/NZS

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|--------|---|
| 2243 | Safety in laboratories |
| 2243.2 | Part 2: Chemical aspects |
| 2243.5 | Part 5: Non-ionizing radiations—Electromagnetic, sound and ultrasound |

ISO

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| Guide 30 | Terms and definitions used in connection with reference materials |
| Guide 32 | Calibration in analytical chemistry and use of certified reference materials |
| 3696 | Water for analytical laboratory use—Specification and test methods |

* Additional documents are listed in Appendix B for information only.