

Australian/New Zealand Standard™

Safety in laboratories

Part 2: Chemical aspects



AS/NZS 2243.2:2006

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee CH-026, Safety in Laboratories. It was approved on behalf of the Council of Standards Australia on 2 June 2006 and on behalf of the Council of Standards New Zealand on 16 June 2006.

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The following are represented on Committee CH-026:

Australian Industry Group
Australian Institute of Occupational Hygienists
CSIRO
Department of Labour, New Zealand
Department of Primary Industries (Victoria)
Environmental Science and Research, New Zealand
Ministry of Economic Development, New Zealand
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Victorian WorkCover Authority
WorkCover New South Wales

Additional Interests:

Independent OHS and chemical management consultant
Monash University
University of Western Australia

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee CH-026, Safety in Laboratories, to supersede AS/NZS 2243.2:1997.

The objective of this Standard is to provide information, recommendations and procedures involving the use of chemicals which will promote safe working in laboratories.

This edition has been completely reformatted to improve clarity and to incorporate changed information on staff responsibilities, laboratory waste storage and disposal, and compressed and liquefied gases.

The Standard is Part 2 of a 10-part series designed to promote safety in laboratory operations, and is aimed at specific aspects of safety common to chemical laboratories.

The other Parts in the series are as follows:

- Part 1: Planning and operational aspects
- Part 3: Microbiological aspects and containment facilities
- Part 4: Ionizing radiations
- Part 5: Non-ionizing radiations—Electromagnetic, sound and ultrasound
- Part 6: Mechanical aspects
- Part 7: Electrical aspects
- Part 8: Fume cupboards
- Part 9: Recirculating fume cabinets
- Part 10: Storage of chemicals

It is recommended that Part 1 be used in conjunction with this Part, and that additional Parts be obtained where justified by the type of operations carried out in the particular laboratory.

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

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Australian/New Zealand Standard
Safety in laboratories**Part 2: Chemical aspects**

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard sets out requirements and recommended procedures for safe working practices in the chemical laboratory. It includes procedures for handling flammable, toxic, corrosive, unstable and highly reactive chemicals and makes reference to the handling of compressed and liquefied gases. The Standard also includes information on hazards associated with working in the chemical laboratory.

1.2 APPLICATION

This Standard is intended to be used in conjunction with AS/NZS 2243.1, which provides requirements and recommendations on matters common to all types of laboratory work. If the requirements of any part of this Standard conflict with any National, State or Territory regulations, the appropriate statutory regulations shall apply.

1.3 REFERENCED AND RELATED DOCUMENTS

A list of referenced and related documents is given in Appendix A.

1.4 DEFINITIONS

For the purpose of this Standard, the definitions in AS/NZS 2243.1 and those below apply.

NOTE: The definitions below may not apply in New Zealand.

1.4.1 Auto-ignition temperature

The lowest temperature at which a vapour will spontaneously catch fire in air.

1.4.2 Bund

An embankment of earth, or a wall of brick, stone, concrete or other material which may form part or all of the perimeter of a room or compound, and which is sufficiently impervious to retain spillage and to enable recovery of any such spillages.

1.4.3 Combustible liquid (Australia only)

Any liquid other than a flammable liquid that has a flash point, and that has a fire point less than its boiling point.

For the purposes of this Standard, combustible liquids are divided into two classes as follows:

- (a) *Class C1* A combustible liquid that has a flash point of 150°C or less.
- (b) *Class C2* A combustible liquid that has a flash point exceeding 150°C.

NOTE: The boiling point is taken to mean that point at which it is no longer possible to achieve the rate of temperature rise required by ASTM D92 for the fire point test.