AS/NZS 2243.1:2005

Australian/New Zealand Standard™

Safety in laboratories

Part 1: Planning and operational aspects

STANDARDS AUSTRALIA

STANDARDS NEW ZEALAND
Paerewa Aotearoa

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 20 December 2004 and on behalf of the Council of Standards New Zealand on 21 January 2005.
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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
National Association of Testing Authorities, Australia
National Measurement Institute, Australia
The New Zealand Chemical Industry Council
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Additional Interests:

Fume extraction equipment manufacturing interests
Independent consultant health physicist
Monash University
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We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Please address your comments to the Chief Executive of either Standards Australia or Standards New Zealand at the address shown on the back cover.

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Safety in laboratories

Part 1: Planning and operational aspects

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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 2243.1:1997, *Safety in laboratories* Part 1: *General*.

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

Major changes in this edition are as follows:

(a) Provision of clearer guidance on risk management processes for a laboratory and alignment with AS/NZS 4801, especially for terminology relating to occupational health and safety management.

(b) Text assigning responsibilities to particular laboratory staff members has been rewritten to a systemic approach to reflect the recommendations of Standardization Guide 17.1, *Drafting of standards that may be referenced under occupational health and safety legislation*, to remove specific assignment of duties.

(c) Provision of increased guidance on local exhaust ventilation options.

(d) Removal of the injury report form that had been copied from AS 1885.1 into an Appendix of AS/NZS 2243.1:1997.

The Standard comprises Part 1 of a 10-part series designed to provide basic coverage of all important aspects of the safety function in laboratories. It deals with the general aspects of safety common to all kinds of laboratories and is intended to be used in conjunction with other Parts of the series, which relate to particular aspects of laboratory operations and to particular kinds of hazards. It stresses the importance of preventive measures and sets out safe practices, emergency procedures, and first aid.

The other Parts in the series are as follows:

Part 2: Chemical 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

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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FOREWORD

Safety in laboratories is impacted upon by design and construction. When combined with systems of work that are based on the recognition of hazards and control of risks, we have an integrated approach to achieving a safe workplace.

Everyone has a responsibility to work safely in laboratories. The aim is for every person to be able to make informed decisions based on sound risk management principles. Management has a duty to provide information, instruction, training and supervision. Management should communicate and reinforce safety rules and work practices. They should show leadership and foster appropriate attitudes and behaviours in all personnel who work in laboratories. Increased alertness is required with regard to personnel who are at greater risk of injury because of their age, inexperience and unfamiliarity with the work surroundings.

It is recommended that an occupational health and safety (OHS) management system or a quality management system be adopted for the control and review of all laboratory practices and procedures.

STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

Australian/New Zealand Standard
Safety in laboratories

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SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard sets out requirements, general procedures, precautions, recommendations and information designed to promote safety of persons and property in laboratory operations. The safety aspects described in this Standard apply to laboratory staff, maintenance staff, contractors, visitors and other authorized personnel, including students, cleaners and security staff who use or enter the laboratory facilities.

This Standard deals specifically with safe practices in laboratories and does not cover the design and construction of laboratories, which is covered in building regulations and is the subject of AS/NZS 2982.1.

NOTE: This Standard does not cover field work performed outside the laboratory.

1.2 APPLICATION

This Standard should be used in conjunction with the appropriate part(s) of AS/NZS 2243 that are relevant to the type of work being carried out in the laboratory. If the requirements of any part of this Standard conflict with any National, State or Territory regulations, the appropriate statutory regulations shall apply.

While this Standard has been developed for laboratories in buildings, it may be used for guidance for laboratories and laboratory activities in other locations, such as vehicles or vessels.

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 below apply.

1.4.1 Accident

Any occurrence which results in personal injury, disease or death, or property damage.

1.4.2 Competent person

A person who has acquired through training, qualifications or experience, or a combination of these, the knowledge and skills enabling that person to perform a specified task.

1.4.3 Corrosive

Having the characteristic of damaging or destroying by direct chemical action; this includes the effect of caustic substances.