AS/NZS 2243.3:2010

Australian/New Zealand Standard™

Safety in laboratories

Part 3: Microbiological safety and containment

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 13 May 2010 and on behalf of the Council of Standards New Zealand on 27 August 2010.
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The following are represented on Committee CH-026:

Australian Industry Group
Australian Institute of Occupational Hygienists
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Department of Labour, New Zealand
Department of Primary Industries, Vic.
Environmental Science and Research, New Zealand
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Australasian Plant Pathology Society
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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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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee CH-026, Safety in Laboratories, to supersede AS/NZS 2243.3:2002, *Safety in laboratories*, Part 3: *Microbiological aspects and containment facilities*.

Major changes in this edition are as follows:

(a) Revision of the requirements for laboratories dealing with infectious diseases and the classifications of microorganisms into the four risk groups.

(b) Separate definitions are provided for the four risk groups for plant infectious microorganisms and for microorganisms carried by invertebrates.

(c) The plant and invertebrate sections have been revised to acknowledge the different types of hazards associated with plant and invertebrate microorganisms.

(d) The presentation of requirements for animal, plant and invertebrate containment facilities has been revised to make them independent of the requirements for laboratories.

(e) Addition of a requirement for a pressure steam sterilizer to be accessible from within all PC3 facilities.

The Committee is currently addressing the need to develop a section for containment of water based species, including fish and aquatic invertebrates. Some applicable information may be found in the laboratory and animal facility sections of this Standard.

The containment of plant pathogens is primarily concerned with minimizing hazards due to inadvertent spread to the environment. This is in contrast to the containment of human and animal pathogens, where the principal aim is to avoid risk of infection or contamination of facility workers and the community.

The containment of invertebrate pathogens may involve the minimization of hazards associated with inadvertent spread to the environment or microbiological hazards associated with exposure to people or animals. It may involve both of these hazards simultaneously. Where hazards to personnel are present in an invertebrate facility, the invertebrates and laboratory work will need to be carried out in a laboratory of appropriate microbiological containment level to protect the personnel, along with the additional containment features associated with invertebrate containment.

The Parts of the series promoting safety in laboratories are as follows:

Part 1: Planning and operational aspects
Part 2: Chemical aspects
Part 3: Microbiological safety and containment (this Part)
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

Although many of the safety aspects of working in laboratories are addressed in other Parts of the series, some are repeated here in Part 3 because there is an increase in the risk in containment facilities.

This Standard is intended to cover safety and containment aspects of work with microorganisms, including genetically modified microorganisms. However, it does not cover the additional security requirement that may be implemented in response to community interest and concerns in genetic modification work. For these, the relevant regulatory authority should be consulted. Also, the Standard is not primarily intended to address containment of organisms for work that does not involve microorganisms.

This Standard is intended to assist in addressing the obligations placed on employers and employees under occupational health and safety legislation to take care of both themselves and others in the workplace. It should not be assumed that compliance with this Standard means that all aspects of appropriate legislation or all legal obligations are being fulfilled. This Standard is not intended to provide for compliance with a specific act or regulation.

It should be noted that nothing in this Standard is required by law in any jurisdiction unless the Standard has been specifically incorporated by an Act or regulation in that jurisdiction. The exact manner of incorporation will determine whether the whole document, or specific sections or provisions, are made legal requirements or whether the Standard becomes an Approved Code of Practice. However, it should also be noted that this Standard is recognized in common law as defining current knowledge in microbiological safety practice. The provisions in a Code are not mandatory but give practical guidance on how to comply with the relevant provisions of the Act or regulation. Provided an alternative method also fulfils the requirements of the Act or regulation, it may be used. Users will need to consult the relevant authority to determine if this Standard has been incorporated and the manner of incorporation, if any.

In recognition of the changes made to this Standard during its revision, existing facilities should be assessed for risk and interim control measures should be implemented.

Current facilities and procedures should be updated to conform to this Standard. Compliance improvements should be made within a time frame that takes into consideration the cost of upgrading and the severity of the associated risk.

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 and contains requirements that have to be met for compliance with the objectives and intent of this Standard. An ‘informative’ appendix is only for information and guidance.