AS 2243.9:2025

Australian STANDARD®

STANDARDS Australia

# Safety in laboratories

## Part 9: Recirculating fume cabinets

AS 2243.9:2025

This Australian Standard® was prepared by CH-026, Safety In Laboratories. It was approved on behalf of Standards Australia's Standards Development and Accreditation Committee on 19 February 2025.

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The following are represented on Committee CH-026:

Association of Biosafety for Australia and New Zealand
Australasian College of Toxicology and Risk Assessment
Australasian Fire and Emergency Service Authorities Council
Australian Institute of Health & Safety
Australian Institute of Occupational Hygienists
Australian Science Teachers Association
Bureau of Steel Manufacturers of Australia
CSIRO
Institution of Chemical Engineers
National Association of Testing Authorities Australia
National Measurement Institute
Plumbing Products Industry Group
Royal Australian Chemical Institute
Science Industry Australia
Victorian WorkCover Authority (WorkSafe Victoria)

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# Safety in laboratories

## Part 9: Recirculating fume cabinets

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Revised and redesignated as AS 2243.9:2025.

# Preface

This Standard was prepared by the Australian members of the Joint Standards Australia/Standards New Zealand Committee CH-026, Safety in Laboratories, to supersede AS/NZS 2243.9:2009. It was originally prepared as a result of a request from the Royal Australian Chemical Institute and other organizations for a Standard covering minimum safety requirements for recirculating fume cabinets.

After consultation with stakeholders in both countries, Standards Australia and Standards New Zealand decided to develop this document as an Australian Standard rather than an Australian/New Zealand Standard.

The objective of this document is to specify requirements and recommendations for the selection, safe use, maintenance and testing of recirculating fume cabinets with design and performance requirements for the cabinets and their filtration systems.

The main changes made to the document in preparing this edition are as follows:

(a) Updated references.

(b) Introduction of risk assessment to ensure the suitability of the recirculated fume cabinet for its intended use.

(c) Added content on disposal of filters.

A list of all parts in the AS 2243 series can be found in the Standards Australia online catalogue.

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.

# Contents

# Introduction

Recirculating fume cabinets rely on filtration or absorption to remove airborne contaminants released in the cabinet, so that the exhaust air may be safely discharged back into the laboratory atmosphere. Recirculating fume cabinets are suitable for light to moderate use with a limited range of substances. The range of substances for which each cabinet can be used is limited by the need for compatibility with the particular type of absorber or filter fitted to the cabinet.

# Australian Standard®

## Safety in laboratories

## Part 9: Recirculating fume cabinets

## Section 1 Scope and general

### 1.1 Scope

This document specifies safety requirements and gives recommendations for the design, manufacture, use and maintenance of recirculating fume cabinets and the test methods to determine their performance.

This document does not specify requirements for biosafety cabinets, cytotoxic drug safety cabinets, and pharmaceutical isolators.

NOTE Requirements for fume cupboards (which extract air to the outside atmosphere) are set out in AS/NZS 2243.8.

### 1.2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document.

NOTE Documents referenced for informative purposes are listed in the Bibliography

AS 1807.20, *Cleanrooms, workstations, safety cabinets and pharmaceutical isolators — Methods of test, Part 20: Determination of sound level at installed workstations, safety cabinets and pharmaceutical isolators*

AS 2252.4, *Controlled environments, Part 4: Biological safety cabinets Classes I and II — Installation and use (BS 5726:2005, MOD)*

AS 2444, *Portable fire extinguishers and fire blankets — Selection and location*

AS 4260, *High efficiency particulate air (HEPA) filters — Classification, construction and performance*

AS/NZS 1530.3, *Methods for fire tests on building materials, components and structures, Part 3: Simultaneous determination of ignitability, flame propagation, heat release and smoke release*

AS/NZS 3000, *Electrical installations (known as the Australian/New Zealand Wiring Rules)*

### 1.3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

**1.3.1**
**access window**
transparent safety screen that is positioned between the working chamber and the operator for personal protection during use; and can be temporarily moved out of the way to permit bulky equipment to be loaded into the recirculating fume cabinet

Note 1 to entry: See also definition for sash, Clause 1.3.16.

**1.3.2**
**negative air pressure**
air pressure lower than the immediate environment external to the cabinet