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Australian STANDARD®

STANDARDS Australia

Safety in laboratories

Part 9: Recirculating fume cabinets



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Australian Institute of Health & Safety
Australian Institute of Occupational Hygienists
Australian Science Teachers Association
Bureau of Steel Manufacturers of Australia
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Institution of Chemical Engineers
National Association of Testing Authorities Australia
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Part 9: Recirculating fume cabinets

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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.

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Contents

Preface ii

Introduction v

Section 1 Scope and general 1
1.1 Scope 1
1.2 Normative references 1
1.3 Terms and definitions 1

Section 2 Risk assessment 4
2.1 General 4
2.2 Risk assessment process 4
2.3 Limitations of use 4

Section 3 Types, services and components 6
3.1 Types of recirculating fume cabinets 6
3.1.1 General 6
3.1.2 Up-draught cabinets 6
3.1.3 Down-draught cabinets 6
3.2 Services 7
3.2.1 Mobile cabinets 7
3.2.2 Services to open-based recirculating fume cabinets 7
3.2.3 Electrical services 7
3.2.4 Other services 7
3.2.5 Controls 7
3.2.6 Lights 7
3.3 Filters 7
3.3.1 General 7
3.3.2 Supply of filters 8
3.3.3 Identification of fitted filter(s) in use 8
3.3.4 Disposal of filters 8

Section 4 Design and materials of construction 9
4.1 General 9
4.2 Recirculating fume cabinet materials 9
4.2.1 Metals 9
4.2.2 Plastics 9
4.2.3 Glass 10
4.2.4 Timber 11
4.3 Filter housing/casing 11
4.4 Recirculating fume cabinet design 11
4.4.1 Design 11
4.4.2 Fan 11
4.4.3 Fan operation indicator 11

Section 5 Airflow, fume filtration and vapour absorption 12
5.1 Requirements for airflow into the recirculating fume cabinet 12
5.1.1 General 12
5.1.2 Face velocity 12
5.1.3 Room airflow 12
5.1.4 Increasing containment 12
5.2 Fume filtration and absorption 13
5.2.1 General 13
5.2.2 System pressure 13
5.2.3 Filtration of fine particles 13
5.2.4 Absorption of fume 13
5.2.5 Filtration of particulates or aerosols giving off toxic fume 13

Section 6 Siting and commissioning 14

6.1 Siting 14
6.1.1 General 14
6.1.2 Avoiding airflow disturbances to the recirculating fume cabinet 14
6.1.3 Exits and escape routes 15
6.2 Commissioning tests 17
6.2.1 General 17
6.2.2 Smoke tests 17
6.2.3 Face velocity 17
6.2.4 Filter installation 17
6.2.5 Noise level 17
6.2.6 Placing in service 17

Section 7 Recommendations and requirements for use of recirculating fume cabinets 18
7.1 General procedures 18
7.2 Before use 18
7.3 During use 19
7.4 After use 19
7.5 Identifying filter saturation 19
7.5.1 General 19
7.5.2 Filter failure 19
7.5.3 Methods for detecting filter saturation 20
7.6 Fire precautions 21

Section 8 Servicing and maintenance 22
8.1 General 22
8.2 Logbook 22
8.3 Cleaning 22
8.4 Filter change 22
8.4.1 General 22
8.4.2 Pre-filters 22
8.4.3 Main filter 22
8.4.4 HEPA filters 22
8.4.5 Disposal of saturated filters 23
8.5 Maintenance schedule 23
8.5.1 Monthly maintenance 23
8.5.2 Six-monthly maintenance 23
8.5.3 Annual maintenance 23

Appendix A (normative) **Method for conducting a smoke test 24**

Appendix B (normative) **Method for determining face velocity 28**

Appendix C (informative) **Example checklist and report form 31**

Bibliography 33

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.

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NOTES

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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

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