AS 2243.2 Under revision see DR 89188

SUPERSEDED BY AS 2243.2-1990

AS 2243, Part 2—1982
UDC 614.8.006.25

Australian Standard 2243, Part 2—1982

SAFETY IN LABORATORIES
PART 2—CHEMICAL

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This Australian standard was prepared by Committee CH/26, Safety in Laboratories. It was approved on behalf of the Council of the Standards Association of Australia on 30 September 1982 and published on 6 December 1982.

The following interests were represented on the committee responsible for the preparation of this standard:

Australian Atomic Energy Commission

Australian Institute of Petroleum Ltd

The Broken Hill Pty Co Ltd

Commonwealth Scientific and Industrial Research Organization

Department of Science and Technology

Safety Institute of Australia

State Laboratories, Victoria

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AUSTRALIAN STANDARD

SAFETY IN LABORATORIES

Part 2
CHEMICAL

AS 2243, Part 2—1982

First published 1979
Second edition 1982

PUBLISHED BY THE STANDARDS ASSOCIATION OF AUSTRALIA
STANDARDS HOUSE, 80 ARTHUR ST, NORTH SYDNEY, N.S.W.

ISBN 0 7262 2764 1

PREFACE

This edition of this standard was prepared by the Association's Committee on Safety in Laboratories under the direction of the Chemical Standards Board, to supersede AS 2243, Part 2—1979. The standard was originally prepared in response to a need first recognized by the Committee on Safe Handling of Chemicals and subsequently confirmed by an extensive survey of laboratory interests. The interest shown in the first edition of the standard added further confirmation to this viewpoint and in this second edition, an expansion of the original material has taken place, especially on safety practices, as a result of comment forwarded to the committee.

The standard comprises Part 2 of a seven-part series, designed to promote safety in laboratory operations, and is aimed at specific aspects of safety common to chemical laboratories. Essential safety procedures and recommended practices are outlined in respect of flammable, toxic, unstable, and highly reactive chemicals. Special coverage is given to the handling and storage of compressed and liquefied gases.

The other parts in the series are as follows:

Part 1—General
Part 3—Microbiology
Part 4—Ionizing Radiations
Part 5—Non-ionizing Radiations
Part 6—Mechanical Aspects
Part 7—Electrical Aspects

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

Users of this standard are especially invited to suggest revisional material for subsequent editions. It will be helpful if such submissions reproduce as fully as possible the substance of additional or replacement sections or clauses, to assist in the process of revision.

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard
for
SAFETY IN LABORATORIES

PART 2—CHEMICAL

SECTION 1. SCOPE, DEFINITIONS AND ORGANIZATION OF LABORATORY SAFETY

1.1 SCOPE. This standard outlines essential and recommended practices, and information on hazards, necessary for the safe conduct of operations within chemical laboratories.

1.2 REFERENCED DOCUMENTS. The following standards are referred to in this standard:

AS 1076	Code of Practice for Selection, Installation and Maintenance of Electrical Apparatus and Associated Equipment for Use in Explosive Atmospheres
AS 1169	Minimizing of Combustion Hazards Arising from the Medical Use of Flammable Anaesthetic Agents
AS 1216	Classification, Hazard Identification and Information Systems for Dangerous Goods Part 1—Classification and Class Labels for Dangerous Goods
AS 1336	Recommended Practices for Eye Protection in the Industrial Environment
AS 1337	Eye Protectors for Industrial Applications
AS 1715	Selection, Use and Maintenance of Protective Devices
AS 1716	Respiratory Protective Devices
AS 1846	Dry Chemical Type Portable Fire Extinguishers
AS 1847	Carbon Dioxide Type Portable Fire Extinguishers
AS 1848	Halogenated Hydrocarbon Type Portable Fire Extinguishers
AS 1894	Code of Practice for the Safe Handling of Cryogenic Fluids
AS 2030	SAA Gas Cylinders Code
AS 2106	Methods for the Determination of the Flashpoint of Flammable Liquids (Closed Cup)
AS 2161	Industrial Safety Gloves and Mittens (Excluding Electrical and Medical Gloves)
AS 2208	Safety Glazing Materials for use in Buildings (Human Impact Considerations)
AS 2210	Safety Footwear
AS 2243	Safety in Laboratories Part 1—General Part 4—Ionizing Radiations
AS 2508	Safe Storage and Handling Information Cards for Hazardous Materials
AS 3000	SAA Wiring Rules
AS XXXX	Laboratory Design and Construction for Safe Working Practice*

NOTE: Some reference sources are given in text. Appendix K provides a list of additional references.

1.3 DEFINITIONS. For the purposes of this standard, the following definitions apply:

1.3.1 Flammable—capable of being readily ignited and of burning in air.

1.3.2 Flashpoint—the lowest temperature at which application of a small flame causes the vapour above a flammable liquid to produce a momentary flash when it is heated under standardized conditions of test laid down by an appropriate test method. (See AS 1216, Part 1 and AS 2106.)

1.3.3 Auto-ignition temperature—the lowest temperature at which a vapour will spontaneously catch fire in air.

NOTE: If vapour from a liquid at room temperature is carried by draught into contact with a surface above the ignition temperature, the vapour may ignite and burn back to ignite the liquid.

1.3.4 Toxic (poisonous) chemical—a substance which, when introduced in sufficient quantity into an animal organism by ingestion, inhalation or absorption, destroys or threatens to destroy life, or injures health.

NOTE: The word 'toxic' has the same meaning as 'poisonous'.

1.3.5 Threshold limit value (TLV)—a reference to the air-borne concentrations of substances. TLVs are guides to provide safe workroom air for nearly all workers. They may be expressed in three ways; most commonly as time-weighted averages for the working week, but also as ceiling values which should never be exceeded, or as short-term exposure limits. These values are subject to review in the light of any new knowledge.

*In course of preparation.

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