AS/NZS 8124.4:2020

Australian/New Zealand Standard™

Safety of toys

Part 4: Experimental sets for chemistry and related activities (ISO 8124-10:2019, MOD)

AS/NZS 8124.4:2020

This Joint Australian/New Zealand Standard™ was prepared by Joint Technical Committee CS-018, Safety of Children's Toys. It was approved on behalf of the Council of Standards Australia on 14 August 2020 and by the New Zealand Standards Approval Board on 10 June 2020.

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The following are represented on Committee CS-018:

Australian Toy Association
Better Regulation Division, NSW
CHOICE
Consumer Affairs Victoria
Consumers Federation of Australia
Kidsafe Australia
National Retail Association Australia
New Zealand Toy Distributors Association
Office of Fair Trading, Qld
Queensland Health
Safekids Aotearoa, New Zealand
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Originated as AS 8124.4—2003.
Jointly revised and redesignated as AS/NZS 8124.4:2020.

Preface

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee CS-018, Safety of Children's Toys, to supersede AS 8124.4—2003, *Safety of toys, Part 4: Experimental sets for chemistry and related activities*.

The objective of this Standard is to specify requirements for the maximum amount and, in some cases, the maximum concentration of certain substances and mixtures used in experimental sets for chemistry and related activities.

These substances and mixtures are —

(a) those classified as dangerous by the Globally Harmonized System of Classification and Labelling of Chemicals (GHS);

(b) substances and mixtures which in excessive amounts could harm the health of the children using them and which are not classified as dangerous by the GHS; and

(c) any other chemical substance(s) and mixture(s) delivered with the experimental set.

This Standard applies to experimental sets for chemistry and related activities, including crystal-growing sets, carbon-dioxide-generating experimental sets and supplementary sets. It also covers sets for chemical experiments within the fields of mineralogy, biology, physics, microscopy and environmental science, whenever they contain one or more chemical substances and/or mixtures which are classified as hazardous according to the GHS.

This Standard also specifies requirements for marking, a contents list, instructions for use, eye protection and the equipment intended for carrying out the experiments.

This Standard is an adoption with national modifications, and has been reproduced from, ISO 8124-10:2019, *Safety of Toys, Part 10: Experimental sets for chemistry and related activities*. The modifications are additional requirements and are set out in Appendix ZZ, which has been added at the end of the source text.

Appendix ZZ lists the variations to ISO 8124-10:2019 for the application of this Standard in Australia and New Zealand.

As this document has been reproduced from an International Standard, a full point substitutes for a comma when referring to a decimal marker.

Australian or Australian/New Zealand Standards that are identical adoptions of international normative references may be used interchangeably. Refer to the online catalogue for information on specific Standards.

The terms "normative" and "informative" are used in Standards to define the application of the appendices or annexes to which they apply. A "normative" appendix or annex is an integral part of a Standard, whereas an "informative" appendix or annex is only for information and guidance.

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 181, *Safety of toys*.

A list of all parts in the ISO 8124 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

This document is intended to reduce the risks and health hazards to children when experimental sets involving chemical experiments are used as intended or in a foreseeable way, bearing in mind the behaviour of children.

During use of these experimental sets, hazards should be kept to a minimum by the provision of appropriate information to make the experiments safe and controllable. Therefore, this document specifies warning phrases and instructions for use with experimental sets.

As a general rule, experimental sets are designed and manufactured for particular ages of children. Their characteristics are related to the age and stage of development of the children, and their use presupposes certain aptitudes. Age requirements are therefore given.

The requirements of this document do not release parents or carers from their responsibility of watching over a child while he or she is carrying out experiments. On the contrary, the use of these sets requires close supervision by adults.

Products covered by this document may be subject to legal requirements specific to the jurisdiction in which they are sold and conformity with the requirements in this document cannot be relied on to ensure compliance with those requirements.

NOTES

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1 Scope

This document specifies requirements for the maximum amount and, in some cases, the maximum concentration of certain substances and mixtures used in experimental sets for chemistry and related activities.

These substances and mixtures are:

— those classified as dangerous by the Globally Harmonized System of Classification and Labelling of Chemicals (GHS)[1];

— substances and mixtures which in excessive amounts could harm the health of the children using them and which are not classified as dangerous by the GHS; and

— any other chemical substance(s) and mixture(s) delivered with the experimental set.

This document applies to experimental sets for chemistry and related activities, including crystal-growing sets, carbon-dioxide-generating experimental sets and supplementary sets. It also covers sets for chemical experiments within the fields of mineralogy, biology, physics, microscopy and environmental science, whenever they contain one or more chemical substances and/or mixtures which are classified as hazardous according to the GHS[1].

This document also specifies requirements for marking, a contents list, instructions for use, eye protection and the equipment intended for carrying out the experiments.

Requirements for certain other chemical toys are given in ISO 8124-11.

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. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 48-4, *Rubber, vulcanized or thermoplastic — Determination of hardness — Part 4: Indentation hardness by durometer method (Shore hardness)*

ISO 868, *Plastics and ebonite — Determination of indentation hardness by means of a durometer (Shore hardness)*

ISO 8124-1, *Safety of toys — Part 1: Safety aspects related to mechanical and physical properties*

ISO 8124-11, *Safety of toys — Part 11: Chemical toys (sets) other than experimental sets*

ISO 8317, *Child-resistant packaging — Requirements and testing procedures for reclosable packages*

EN 862, *Packaging — Child-resistant packaging — Requirements and testing procedures for non-reclosable packages for non-pharmaceutical products*

3 Terms and definitions

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