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CHILDREN'S TOYS (SAFETY REQUIREMENTS) Part 3—TOXICOLOGICAL REQUIREMENTS



STANDARDS ASSOCIATION OF AUSTRALIA
Incorporated by Royal Charter

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THE FOLLOWING SCIENTIFIC, INDUSTRIAL, CONSUMER AND GOVERNMENTAL organizations and departments were officially represented on the committee entrusted with the preparation of this standard:

Australian Consumers Association
Australian Federation of Consumer Organizations
Australian Retailers Association
Confederation of Australian Industry
Country Women's Association of Australia
Department of Business and Consumer Affairs
Department of Consumer Affairs, N.S.W.
Department of Health
Department of Public and Consumer Affairs, S.A.
Department of Industrial Relations and Technology
Department of Science and the Environment
Health Commission of New South Wales
Health Commission of Victoria
Ministry of Consumer Affairs, Vic.
National Safety Council of Australia (Victorian Division)
Royal Alexandra Hospital for Children

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AUSTRALIAN STANDARD

**CHILDREN'S TOYS
(SAFETY REQUIREMENTS)**

**Part 3
TOXICOLOGICAL
REQUIREMENTS**

AS 1647, Part 3—1980

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PREFACE

This standard was prepared by the Association's Committee on Safety of Children's Toys and relates to the toxicological requirements of children's toys. This standard constitutes Part 3 of the standard for toys and, as such, is a part revision of AS 1647—1974, Children's Toys and Playthings (Safety Requirements). Other Parts of this standard are as follows:

Part 1—General Safety Requirements*

Part 2—Constructional Requirements*

Part 4—Flammability Requirements

In preparing this standard, the committee took into account the following documents:

European Committee for Standardization pr EN 71

United States Consumer Product Safety Commission Regulations

United States Voluntary Product Standard PS 72-76

Canadian Government Regulations.

This standard makes reference to the following standards:

AS 1152 Test Sieves

AS 1647 Children's Toys

Part 1—General Safety Requirements*

Part 2—Constructional Requirements*

AS L15 Methods for Determining the Colour Fastness of Textiles

Part XVII—Colour Fastness to Perspiration

*In course of preparation.

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STANDARDS ASSOCIATION OF AUSTRALIA

**Australian Standard
for
CHILDREN'S TOYS
(SAFETY REQUIREMENTS)**

PART 3—TOXICOLOGICAL REQUIREMENTS

FOREWORD

This standard constitutes Part 3 of the standard for toys and it relates to toxicological requirements for toys. The purpose of this standard is to establish safety requirements for children's toys such that the more obvious hazards associated with them will be eliminated. The standard does not cover performance requirements other than from a safety point of view.

In this regard, the standard attempts to obviate the toxicological hazards of toys by specifying maximum permissible levels of the more common materials. As there is very little conclusive toxicological data available, the committee took the approach that toxic elements should be minimized in the child's environment. In effect, the committee felt that owing to the lack of documentary data, the levels which should be set should be the minimum levels that can be attained by industry.

Although it is considered that the standard covers most of the common toxicological hazards associated with toys, it should be borne in mind that the standard cannot eliminate all possible hazards from toys and choice of a suitable toy for a particular child remains the responsibility of the purchaser. In the selection of a toy, it is important that the age of the child and the nature and stage of his or her mental and physical development be considered. Care should also be exercised to ensure that toys such as chemical toys which are intended for use by older children do not fall into the hands of much younger children who may not appreciate the consequences of incorrect use.

SPECIFICATION

1 SCOPE. This standard specifies maximum permissible levels of toxic substances that may be present in toys.

2 APPLICATION. This standard applies to all toys except those excluded in Clause 2 of AS 1647, Part 1.

3 DEFINITIONS. For the purpose of this standard, the following definitions apply:

3.1 Toy means an object or a number of objects manufactured and designed and/or labelled and/or marketed as a plaything for a child or children up to the age of 14 years.

3.2 Accessible means any part of a toy that can be contacted using the procedure and the articulate probe described in Appendix A of AS 1647, Part 2.

3.3 Chemical toy means a toy which contains two or more substances which when added together result in a chemical reaction, e.g. a chemistry set.

3.4 Coating material means a decorative, preservative or other coating applied to the surface of a toy; e.g. paint, varnish, lacquer, ink, metal.

3.5 Graphic material means the material deposited on another material by a graphic instrument during writing, drawing or marking; e.g. the core of a pencil (both 'lead' and coloured), crayon, chalk, finger paint, watercolour block.

3.6 Intended means designed, labelled or marketed.

3.7 Plastics material means material based on synthetic polymers or modified natural polymers which during manufacture may be formed to shape by flow or deposition, aided in many cases by heat and pressure.

NOTE: It is intended that rubber and other elastomeric materials, e.g. latex materials, be included within the ambit of the definition of plastics material.

3.8 Printed material means a toy in the form of a magazine or book containing printing and/or drawings; e.g. comic, magazine, rag book.

3.9 Test specimen means material that has been prepared in accordance with Paragraph A4, B4 or C4 of Appendix A, B or C respectively, as appropriate.

3.10 Years (with reference to a specific age) means that the child has attained but not passed his or her birthday for the year specified.

NOTE: For example, if a toy is intended for use by child aged 5 years or less, the toy would be suitable for a child who has reached but not passed his or her fifth birthday or a child that is aged less than 5 years.

4 PROHIBITED SUBSTANCES. A toy shall not include or comprise the following substances:

- (a) Ammonium nitrate.
- (b) Lithium hydroxide.
- (c) Asbestos.

5 REQUIREMENTS.

5.1 General. An accessible part of a toy shall not contain any substance in such quantities that would be hazardous to health.

5.2 Coating Materials. An accessible coating material on a toy shall—

- (a) not contain any lead or any lead-containing substance so that the proportion of lead calculated as the element exceeds 2500 mg/kg of the coating material; and
- (b) when tested in accordance with Appendix A, not contain the element antimony, arsenic, barium, cadmium, chromium, mercury or selenium in an amount which exceeds that specified in Table 1.

NOTES:

1. The permissible level of lead in Clause 5.2(a) was set as specified in order to allow the use of lead driers on oil-based paints. Although the level may appear high relative to the permissible levels of other elements specified in Table 1, it should be noted that the level in (a) relates to the *total* lead content, whereas the levels in Table 1 relate to the *soluble* element content.
2. Referring to Clause 5.2(b), since the levels of elements specified relate to the soluble element content, coating materials that are *not* soluble by the method specified in Appendix A, e.g. chromium plating, are allowable. However, coating materials that *are* soluble by the method specified in Appendix A, e.g. cadmium plating, are not allowed.

TABLE 1
MAXIMUM PERMISSIBLE AMOUNT OF
ELEMENTS IN COATING MATERIALS

Element	Maximum permissible amount of element milligrams of element kilogram of test specimen
antimony	250
arsenic	100
barium	500
cadmium	100
chromium	250
mercury	100
selenium	100

5.3 Plastics Materials. An accessible plastics material on a toy shall—

- (a) when determined in accordance with Appendix A, not contain the element antimony, arsenic, barium, cadmium, chromium, lead, mercury or selenium in an amount which exceeds that specified in Table 2; and
- (b) when determined in accordance with Appendix C, not contain any hexane-soluble substances that average in excess of 10 percent by mass of the test specimens.

5.4 Graphic Materials.

5.4.1 Liquids containing no solids. A toy graphic material that is a liquid containing no solids, e.g. a 'texta' type marking pen, shall also not contain any substances in such quantities or in such a manner that will be hazardous to health.

5.4.2 Solids or suspensions. A toy graphic material that is a solid, e.g. a crayon, or a suspension, e.g. a liquid paint, shall, when determined in accordance with Appendix A, not contain the element antimony, arsenic, barium, cadmium, chromium, lead, mercury or selenium in an amount which exceeds that specified in Table 2.