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



STANDARDS ASSOCIATION OF AUSTRALIA
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The Australian standard was prepared by Committee CS/18, Safety of Children's Toys. It was approved by the Council of the Standards Association of Australia on 11 May 1982 and published on 9 August 1982.

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

- Australian Consumers Association
- Australian Federation of Consumer Organizations
- Australian Retailers Association
- Australian Toy Manufacturers Association
- Commonwealth and State Consumer Products Advisory Committee
- 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
- Department of Science and Technology
- 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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STANDARDS ASSOCIATION OF AUSTRALIA

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AMENDMENT No 1

to

AS 1647, Part 3—1982

**CHILDREN'S TOYS (SAFETY REQUIREMENTS)
PART 3—TOXICOLOGICAL REQUIREMENTS**

CORRECTION

SUMMARY: This correction applies to the note to Clause 6.1.

Published on 6 June 1983.

Page 4. Clause 6.1 (Note).

Note, 5th line—*substitute* the word 'benzidene' for the word 'auramine'.

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

AS 1647, Part 3—1982

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PREFACE

This edition of this standard was prepared by the Association's Committee on Safety of Children's Toys to supersede AS 1647, Part 3—1980. It relates to the toxicological requirements of children's toys. Other Parts of this standard are as follows:

- Part 1—General Safety Requirements
- Part 2—Constructional Requirements
- Part 4—Flammability Requirements

This edition introduces a number of clarifications intended to enable toys to be more readily evaluated for compliance. In this regard, it will be noted that toys which are made from plastics materials and which are intended or likely to be placed into the mouth have been related to the requirements specified for plastics for food contact use, as this was more appropriate than an over-simplified hexane-extraction test, which has accordingly been omitted from this edition. Further, the requirements for modelling materials in this edition have been specified in full which obviates the need to apply the very extensive food regulations, which were not directly applicable. Other areas of clarification in this edition include toy food products, toy cosmetics and chemistry sets. Further, this edition now includes a test procedure for ascertaining whether or not a colourant can be transferred onto the skin via saliva or perspiration.

CONTENTS

	<i>Page</i>
FOREWORD	3
SPECIFICATION	
1 Scope	4
2 Application	4
3 Referenced Documents	4
4 Definitions	4
5 Prohibited Substances	4
6 Requirements	4
APPENDICES	
A Method for Determining Leachable Substances in Coating, Plastics and Graphic Materials	8
B Method for Determining Leachable Substances in Printed Material	10
C Method for Determining Colour Staining	11

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard

for

CHILDREN'S TOYS (SAFETY REQUIREMENTS)

PART 3—TOXICOLOGICAL REQUIREMENTS

FOREWORD

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 specify 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 toxicological requirements for toys.

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

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

AS 1152	Test Sieves
AS 1647	Children's Toys Part 1—General Safety Requirements Part 2—Constructional Requirements
AS 2001.4.17	Methods of Test for Textiles Part 4—Colourfastness Tests—Determination of Colourfastness to Perspiration
AS 2070	Plastics Materials for Food Contact Use Part 1—Polyethylene Part 2—Polyvinyl Chloride (PVC) Compound Part 3—Styrene Plastics Materials Part 4—Acrylonitrile Plastics Materials Part 5—Polypropylene

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

4.1 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.

4.2 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.

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

4.4 Graphic material—means the material deposited on another material by a graphic instrument by writing, drawing or marking; e.g. the core of a pencil (including 'lead' and coloured), crayon, chalk, finger paint, watercolour block, ink (including bulk ink such as that in bottles as well as ink contained in instruments such as pens, marking pens), dyes.

4.5 Intended—means designed, labelled or marketed.

4.6 Modelling material—means a pliable material that it intended to be manipulated by the child to form a desired or new shape.

4.7 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.

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

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

4.10 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 a 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.

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

- Metallic lead and alloys of lead, that are accessible either before or after the toy has been subjected to the appropriate normal use and reasonably foreseeable abuse tests specified in Clause 9 of AS 1647, Part 2.
- Asbestos.
- Ammonium nitrate.
- Lithium hydroxide.

NOTES:

1. The purpose of Clause 5 is to highlight certain hazardous substances which are not included in or on toys. As such, to ascertain whether or not a substance is suitable for inclusion in or on a toy that substance must satisfy Clause 6.1.

2. Referring to Clause 5(a) above, the purpose of prohibiting metallic lead and alloys of lead is not only to prevent the sale of lead soldiers as toys, but also to generally reduce the child's contact with lead in his or her environment. This is not to suggest that metallic lead and alloys of lead are totally prohibited from toys as the requirement refers to accessible lead or alloys of lead (see Clause 4.2). Accordingly, lead (e.g. as contained in solder) may be used, provided that the lead is suitably shielded. Further, as may be seen from the requirements of Clause 6, compounds of lead may be used as a colouring agent, provided that the lead content, calculated as the element, complies with the limitations specified in that clause.

6 REQUIREMENTS.

6.1 General. Except as otherwise permitted in this standard, a toy shall not include any substance, e.g. benzidine, benzidine based substances or 2-naphthylamine, in such quantities or in such a manner that would be hazardous to health when the toy is subjected to normal use and reasonably foreseeable abuse.

NOTE: The purpose of this requirement is to obviate the use or the manner of use of substances which may not be specifically covered within this standard but which substances would be hazardous to health when the toy is subjected to normal use and reasonably foreseeable abuse. The substances ~~benzidine~~, etc. which are given by way of example above are colourants which are considered to be carcinogenic and as such are not to be used in toys.

SEE AMENDMENTS

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

- not contain any lead or any lead-containing substance so that the concentration of lead calculated as the element exceeds 2500 mg/kg of the coating material; and
- when tested in accordance with Appendix A, not leach substances in which elements of antimony, arsenic, barium, cadmium, chromium, lead, mercury and selenium exceed the concentrations specified in Table 1.

NOTE: The maximum permissible concentration of lead specified in Clause 6.2(a) above was set to allow the use of lead driers in oil-based paints. Although that concentration may appear high relative to the permissible concentration of lead specified in Table 1, it should be noted that the concentration in Clause 6.2(a) relates to the *total* lead content, whereas the concentration in Table 1 relates to the *leached* lead content.