Australian Standard®

Children's toys (safety requirements)

Part 2: Constructional requirements

This Australian Standard was prepared by Committee CS/18, Children's Toys. It was approved on behalf of the Council of Standards Australia on 24 June 1992 and published on 14 September 1992.

The following interests are represented on Committee CS/18:

Australian Consumers Association

Australian Federation of Consumer Organizations Inc.

Australian Government Analytical Laboratories

Australian Toy Association

Confederation of Australian Industry

Consumer Affairs, New South Wales

Department of Health, New South Wales

Department of Public and Consumer Affairs, South Australia

Federal Bureau of Consumer Affairs

Ministry of Consumer Affairs, Victoria

National Acoustic Laboratories

Office of Consumer Affairs, Victoria

Pigment Ecological & Toxicological Technical Committee of Australia

Retailers Council of Australia

Royal Alexandra Hospital for Children

Standards Association of New Zealand

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PREFACE

This Standard was prepared by the Standards Australia Committee on Safety of Children's Toys to supersede AS 1647.2—1981. This edition differs from the previous edition in that it is more definitive (e.g. an objective test for projectile toys is re-instated), and it also takes into account recent changes in design and technology of toys.

This Standard is Part 2 of a four-part series designed to promote all aspects of safety in children's toys. The other parts of the Standard are as follows:

Part 1: General safety requirements
Part 3: Toxicological requirements
Part 4: Flammability requirements

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

BS 5665: Part 1:1989 Safety of toys, Part 1: *Specification for mechanical and physical properties.* (Equivalent to European Standard EN 71: Part 1:1988.)

United States Consumer Product Safety Commission Regulations.

United States Voluntary Product Standard PS 72-76.

Canadian Government Regulations.

ASTM F963-86, Standard consumer safety specification on toy safety.

CONTENTS

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 cover performance requirements other than from a safety point of view.

In the preparation of this Standard, the various hazards that are associated with the constructional properties of toys were isolated into two broad groups. The first group of hazards comprises those which are applicable to all toys, whereas the second group of hazards comprises those that are specifically related to toys which, because of their design or because of traditional play modes, are intended for use by children of a certain age group.

Examples of hazards in the first group are as follows:

(a) Sharp edges that could occur on thin materials such as metals.

(b) Sharp points that could result because of burrs or pointed projections that are intended to form part of the toy, such as a mast on a ship.

(c) Pinch or crush hazard which could result from entrapment of one or more fingers between the moving parts of a hinge, e.g. on a box lid, or between the links of a chain or a coil spring.

(d) Excessive noise levels which could be either continuous, such as the noise obtained from a siren of a car, or impulsive, such as that obtained from a cap pistol.

Examples of hazards in the second group are as follows:

(i) Ingestion or inhalation hazard associated with small toys or components that could be torn or otherwise removed from the toy placed into the child's mouth and consequently swallowed or inhaled. This hazard is particularly pertinent to toys that are intended for use by children aged less than three years because such children have not developed sufficient reflexes to cough out small items.

(ii) A strangulation hazard associated with toys that have a string or elastic which may become wrapped around a young child's throat. This hazard is relevant to toys that are intended to be tied across a cradle or playpen, or toys in which the string or elastic is an integral part of the toy, such as pull-along toys or the coiled flex used on a toy telephone.

(iii) A 'fall-off-the-toy' hazard resulting from the instability of such toys as tricycles and rocking horses, that are generally termed 'ride-on' or 'sit-on' toys.

(iv) A puncture hazard resulting from being struck by a projectile such as a toy dart ejected from a spring-loaded pistol.

(v) An electric shock hazard that may result from a toy such as a mains-operated electric train set.

(vi) A burn hazard that could occur from touching a heated surface such as that on a toy steam engine.

Moreover, the evaluation of a toy for the various hazards is to be carried out not only on the finished new product, but also after the toy has been subjected to normal use (that is, the intended play mode) and reasonably foreseeable abuse (that is, an abuse play mode, such as dropping and biting), to which the toy is likely to be subjected.

Nevertheless, in spite of the rigorous evaluation 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 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, that children do not play with defective or damaged toys, or that toys are not used in ways for which they were not intended.

STANDARDS AUSTRALIA

Australian Standard
Children's toys (safety requirements)

Part 2: Constructional requirements

1 SCOPE This Standard specifies constructional and labelling requirements for toys intended for use by children up to 14 years of age.

2 APPLICATION This Standard applies to all toys except those excluded in the Application Clause of AS 1647.1.

3 REFERENCED DOCUMENTS The following Standards are referred to in this Standard:

AS
1055 Acoustics—Description and measurement of environment noise
1055.1 Part 1: General procedures

1067 Sunglasses and fashion spectacles
1067.1 Part 1: Safety requirements

1259 Acoustics—Sound level meters
1259.1 Part 1: Non-integrating

1647 Children's toys (safety requirements)
1647.1 Part 1: General requirements

1815 Metallic materials—Rockwell hardness test

1900 Flotation toys and swimming aids for children

1924 Playground equipment for parks, schools and domestic use
1924.1 Part 1: General requirements

1927 Pedal bicycles for normal road use—Safety requirements

2001 Methods of test for textiles
2001.5 Part 5: Dimensional change
2001.5.5 Method 5: Determination of dimensional change in laundering of textile fabrics and garments—Cubex machine method

2842 Fluid power—O-rings and housings—Inch series, metric conversion

3100 Approval and test specification—General requirements for electrical equipment

3108 Approval and test specification—Particular requirements for isolating transformers and safety isolating transformers

3109 Approval and test specification—Appliance couplers for household and similar general purposes
3109.1 Part 1: General requirements

3112 Approval and test specification—Plugs and socket-outlets

3191 Approval and test specification—Electric flexible cords

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

4.1 Toy—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—any part of a toy that can be contacted using the procedure and the articulated probe described in Appendix A.

4.3 Action cycle—a sequence in which a coil spring is—

(a) at rest;

(b) subjected to a gradually increasing tensile or compression force that reaches the maximum force specified in Clause 6.7; and

(c) subjected to a gradually decreasing tensile or compression force until the spring comes to rest.

4.4 Base area—the area obtained by vertically projecting all the extreme points on the periphery of a toy on to a horizontal plane on which the toy rests in its intended orientation.

4.5 Discharge mechanism—a device capable of releasing stored energy to propel a projectile.