AS/NZS ISO 8124.1:2002
(Incorporating Amendment Nos 1, 2 and 3)

Australian/New Zealand Standard™

Safety of toys

Part 1: Safety aspects related to mechanical and physical properties (ISO 8124-1:2000, MOD)

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee CS-018, Safety of Childrens Toys. It was approved on behalf of the Council of Standards Australia on 30 April 2002 and on behalf of the Council of Standards New Zealand on 18 April 2002.
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The following are represented on Committee CS-018:

Australian Chamber of Commerce and Industry
Australian Competition and Consumer Commission
Australian Consumers Association
Australian Hearing
Australian Retailers Association
Commerce Commission New Zealand
Department of Fair Trading NSW Consumer
Kidsafe
Ministry of Health, New Zealand
New Children's Hospital, Westmead
New Zealand Toy Distributors Association
Office of Consumer and Business Affairs South Australia
Office of Consumer Affairs Tasmania
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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee CS-018, Safety of Childrens Toys. It is an adoption with national modifications and has been reproduced from ISO 8124-1:2000, *Safety of toys*, Part 1: *Safety aspects related to mechanical and physical properties*.

This Standard incorporates Amendment No. 1 (May 2007), No. 2 (February 2009) and Amendment No. 3 (August 2009). The changes required by the Amendment are indicated in the text by a marginal bar and amendment number against the clause, note, table, figure or part thereof affected.

The objective of this Standard is to provide a specification for general safety, construction and labelling requirements for toys complying with the proposed AS/NZS ISO 8124.1.

For the purpose of this Standard, the ISO text is modified as set out in Appendix ZZ. These changes are indicated by a marginal bar against the relevant clause or part thereof affected.

The changes were made to ISO 8124-1 for the following reasons:

(a) To retain the previously used warnings on packaging which are uniformly applied to packaging of many different types of products, not just toys, in Australia and New Zealand.

(b) To use terms more commonly in use in Australia and New Zealand.

(c) To include additional advice.

As this Standard is reproduced from an international publication, the following applies.

(i) Its number appears on the cover and title page while the International Standard number appears only on the cover.

(ii) In the source text, 'this part of ISO 8124' should read 'this Australian/New Zealand Standard'.

(iii) A full point substitutes for a comma when referring to a decimal marker.

References to international Standards should be replaced by equivalent Australian, New Zealand or Australian/New Zealand Standards, as follows:

Reference to International Standard or other publication		*Australian/New Zealand Standard*	
ISO		AS	
868	Plastics and ebonite—Determination of indentation harness by means of a durometer (Shore hardness)	1683	Methods of test for elastomers
		1683.15.1	Part 15.1: International rubber hardness
4287	Surface roughness—Terminology		
4287-2	Part 2: Measurement of surface roughness parameters	1683.15.2	Part 15.2: Durometer hardness
4593	Plastics—Film and sheeting—Determination of thickness by mechanical scanning	2382	Surface roughness comparison specimens
6508	Metallic materials—Rockwell hardness test	1815	Metallic materials—Rockwell hardness test
6508-1	Part 1: Test method (scales A, B, C, D, E, F, G, H, K, N, T)		

The terms 'normative' and 'informative' have been used in this Standard to define the application of the annex or appendix to which they apply. A 'normative' annex or appendix is an integral part of a Standard, whereas an 'informative' annex or appendix is only for information and guidance.

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AUSTRALIAN/NEW ZEALAND STANDARD

Safety of toys

Part 1:

Safety aspects related to mechanical and physical properties

(ISO 8124-1:2000, MOD)

1 Scope

The requirements in this part of ISO 8124 apply to all toys, i.e. any product or material designed or clearly intended for use in play by children under 14 years of age. They are applicable to a toy as it is initially received by the consumer and, in addition, they apply after a toy is subjected to reasonably foreseeable conditions of normal use and abuse unless specifically noted otherwise.

The requirements of this part of ISO 8124 specify acceptable criteria for structural characteristics of toys, such as shape, size, contour, spacing (e.g. rattles, small parts, sharp points and edges, hinge-line clearances) as well as acceptable criteria for properties peculiar to certain categories of toy (e.g. maximum kinetic energy values for non-resilient-tipped projectiles, minimum tip angles for certain ride-on toys).

This part of ISO 8124 specifies requirements and test methods for toys intended for use by children in various age groups from birth to 14 years. The requirements vary according to the age group for which a particular toy is intended. The requirements for a particular age group reflect the nature of the hazards and the expected mental and/or physical abilities of the child to cope with them.

This part of ISO 8124 also requires that appropriate warnings and/or instructions for use be given on certain toys or their packaging. Due to linguistic problems that may occur in different countries, the wording of these warnings and instructions is not specified but given as general information in annex C. It should be noted that different legal requirements exist in many countries with regard to such marking.

This part of ISO 8124 does not purport to cover or include every conceivable potential hazard of a particular toy or toy category. Except for labelling requirements indicating the functional hazards and the age range for which the toy is intended, this part of ISO 8124 has no requirements for those characteristics of toys that represent an inherent and recognized hazard that is integral to the function of the toy.

NOTE An example of such a hazard is the sharp point necessary for the proper function of a needle. The needle is a hazard that is well understood by the purchaser of a toy sewing kit, and the functional sharp point hazard is communicated to the user as part of the normal educational process as well as at the point of purchase by means of cautionary labelling on the product's packaging.

As a further example, a toy scooter has inherent and recognized hazards associated with its use (e.g. instability during use, especially whilst learning). The potential hazards associated with its structural characteristics (sharp edges, pinch hazards, etc.) will be minimized by compliance with the requirements of this part of ISO 8124.

Products not included within the scope of this part of ISO 8124 are

a) bicycles, except for those considered to be toys, i.e. those having a maximum saddle height of 435 mm (see E.1);

b) slingshots;

NOTE "Slingshots" are also known as "catapults"

c) darts with metal points;

d) home and public playground equipment;

e) compressed air and gas operated guns and pistols (see E.1);

f) kites (except for the electric resistance of their strings, which is included);

g) model kits, hobby and craft items in which the finished item is not primarily of play value;

h) sporting goods and equipment, camping goods, athletic equipment, musical instruments and furniture; however, toys that are their counterparts are included.

It is recognized that there is often a fine distinction between, for example, a musical instrument or a sporting item and its toy counterpart. The intention of the manufacturer or distributor, as well as normal use and reasonably foreseeable abuse, determines whether the item is a toy counterpart or not;

i) models of aircraft, rockets, boats and land vehicles powered by combustion engines; however, toys that are their counterparts are included (see E.1);

j) collectible products not intended for children under 14 years of age;

k) holiday decorations that are primarily intended for ornamental purposes;

l) aquatic equipment intended to be used in deep water;

m) toys installed in public places (e.g. arcades and shopping centres);

n) puzzles having more than 500 pieces or without a picture, for specialists;

o) fireworks including percussion caps, except percussion caps specifically designed for toys;

p) products containing heating elements intended for use under the supervision of an adult in a teaching context;

q) steam engines;

r) video toys that can be connected to a video screen and operated at a nominal voltage greater than 24 V;

s) babies' pacifiers (dummies);

t) faithful reproduction of firearms;

u) electric ovens, irons or other functional products operated at a nominal voltage greater than 24 V;

v) bows for archery with an overall relaxed length exceeding 120 cm;

w) fashion jewellery for children (see E.1).

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of ISO 8124. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of ISO 8124 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 868:1985, *Plastics and ebonite — Determination of indentation hardness by means of a durometer (Shore hardness).*

ISO 4287-2:1997, *Surface roughness — Terminology — Part 2: Measurement of surface roughness parameters.*

ISO 4593:1993, *Plastics — Film and sheeting — Determination of thickness by mechanical scanning.*

ISO 6508-1:1999, *Metallic materials — Rockwell hardness test — Part 1: Test method (scales A, B, C, D, E, F, G, H, K, N, T).*

3 Terms and definitions

NOTE Whenever the term “months” is used in this part of ISO 8124, it denotes that the designated number of months is completed (i.e. 18 months means up to and including 18 full months of age).

For the purposes of this part of ISO 8124, the following terms and definitions apply.

3.1
accessible
〈part or component〉 describing any area of the toy that can be contacted by any portion forward of the collar of the accessibility probe as described in 5.7

3.2
aquatic toy
article, whether inflatable or not, intended to bear the mass of a child and used as an instrument of play in shallow water

NOTE Bathroom toys and beach balls are not considered aquatic toys.

3.3
ball
spherical, ovoid, or ellipsoidal object designed or intended to be thrown, hit, kicked, rolled, dropped or bounced

NOTE 1 This definition includes balls attached to a toy or article by a string, elastic cord or similar tether and also any multi-sided object formed by connecting planes into, and any novelty item of, a generally spherical ovoid or ellipsoidal shape designed or intended to be used as a ball.

NOTE 2 This definition does not include dice, or balls permanently enclosed inside pinball machines, mazes, or similar outer containers. A ball is permanently enclosed if, when tested according to 5.24 (reasonably foreseeable abuse), it is not removed from the outer container.

3.4
backing
material adhering to flexible plastic sheeting

3.5
battery-operated toy
toy having at least one function dependent on electricity and powered by batteries

3.6
burr
roughness caused by not cleanly severing or finishing the material

3.7
collapse
sudden or unexpected folding of a structure

3.8
cord
length of slender, flexible material

EXAMPLES Monofilaments, woven and twisted cord, rope, plastic textile tapes, ribbon and those fibrous materials known as string.

3.9
crushing
injury to part of the body resulting from compression between two rigid surfaces

3.10
discharge mechanism
inanimate system for releasing and propelling a projectile

3.11
driving mechanism
assembly of linked parts or components (e.g. gears, belts, winding mechanisms), at least one of which moves, powered by a source (e.g. electrical or mechanical means) independent of the child

3.12
edge
line, formed at the junction of two surfaces, whose length exceeds 2,0 mm

3.12.1
curled edge
edge in which the portion of the sheet adjacent to the edge is bent into an arc and forms an angle of less than 90° with the base sheet

See Figure 1.

3.12.2
hemmed edge
edge in which the portion of the sheet adjacent to the edge is folded back on the sheet itself through an angle of approximately 180°, so that the portion of the sheet adjacent to the edge is approximately parallel to the main sheet

See Figure 1.

3.12.3
rolled edge
edge in which the portion of the sheet adjacent to the edge is bent into an arc and forms an angle between 90° and 120° with the main sheet

See Figure 1.

3.13
expanding material
material whose volume expands when exposed to water

3.14
fastener
mechanical device which attaches two or more elements together

EXAMPLE Screws, rivets, staples.

3.15
feathering
bevelling of an edge (or decrease in thickness moving toward the edge) caused during shearing or cutting of material