

Australian Standard™

**Safety of toys**

**Part 4: Experimental sets for chemistry  
and related activities**

This Australian Standard was prepared by Committee CS-018, Safety of Children's Toys. It was approved on behalf of the Council of Standards Australia on 5 May 2003 and published on 26 June 2003.

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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  
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*This Standard was issued in draft form for comment as DR 03123.*

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First published as AS 8124.4—2003.

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Published by Standards Australia International Ltd  
GPO Box 5420, Sydney, NSW 2001, Australia

ISBN 0 7337 5309 4

## PREFACE

This Standard was prepared by the Australian members of Joint Standards Australian/New Zealand Standards Committee CS-018, Safety of Children's Toys. After consultation with stakeholders in both countries, Standards Australia and Standards New Zealand decided to develop this Standard as an Australian Standard rather than an Australian/New Zealand Standard. The Standard is identical with and has been reproduced from EN 71-4:1998, *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 of certain substances and preparations used in experimental sets for chemistry and related activities.

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

- (a) Its number appears on the cover and title page while the International Standard number appears only on the cover.
- (b) In the source text, 'this part of EN 71' should read 'this Australian Standard'.
- (c) A full point substitutes for a comma when referring to a decimal marker.

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

<i>Reference to International Standard or other publication</i>	<i>Australian/New Zealand Standard</i>
EN	AS/NZS ISO
71 Safety of toys	8124 Safety of toys
71-1 Part 1: Mechanical and physical properties	8124.1 Part 1: Safety aspects related to mechanical and physical properties (ISO 8121.1:2000, MOD)
EEC	
67/548 Classification, packaging and labelling of dangerous substances	—
88/379 Classification, packaging and labelling of dangerous preparations	—

The European Council Directives noted above, which are included as references in this Standard, may be downloaded from the following website: [www.europa.eu.net](http://www.europa.eu.net)

## CONTENTS

	<i>Page</i>
1 Object.....	1
2 Field of application .....	1
3 References .....	1
4 Definitions .....	1
5 Chemical substances.....	1
6 Equipment.....	1
7 Marking .....	5
8 Contents list with warnings and first aid information.....	6
9 Instructions for use.....	6

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# Safety of toys

## Part 4:

### Experimental sets for chemistry and related activities

#### 1 Object

This part of this European Standard specifies requirements for the maximum amount of certain substances and preparations used in experimental sets for chemistry and related activities.

The standard applies to chemistry sets and supplementary sets. It also covers toys for experiments within the fields of mineralogy, biology, physics, microscopics and environmental sciences whenever they contain one or more chemical substances and/or preparations.

It also specifies requirements for marking, contents list, instructions for use and for equipment intended for carrying out the experiments.

#### 2 Field of application

See part 1 of this European Standard.

This part includes requirements for:

- the maximum amounts of substances and preparations classified as dangerous within the definitions contained in Directives 67/548/EEC (with subsequent amendments and adaptations); and
- the maximum amounts of substances and preparations which in excessive amounts may harm the health of the children using them and which are not covered by the above mentioned Directives; and
- the maximum amounts of any other chemical substances delivered with the toy.

#### 3 References

EN 71-1:1988, *Safety of toys — Part 1: Mechanical and physical properties*.

European Council Directive 67/548/EEC — *Classification, packaging and labelling of dangerous substances* (with subsequent amendments and adaptations).<sup>1)</sup>

European Council Directive 88/379/EEC — *Classification, packaging and labelling of dangerous preparations* (with subsequent amendments and adaptations).<sup>2)</sup>

#### 4 Definitions

For the purpose of this part of EN 71 the following definitions apply:

##### 4.1

##### 4.1.1 Chemistry set

a toy consisting of one or more chemical substances and/or preparations with or without equipment intended for carrying out chemical experiments

NOTE The definition also covers toys for experiments within the fields of mineralogy, biology, physics, microscopics and environmental sciences whenever they contain one or more chemical substances and/or preparations.

##### 4.2

##### 4.2.1 supplementary set

a chemistry set which is intended to be used with a complete chemistry set

#### 5 Chemical substances

Only substances and preparations given in Table 1 can be supplied in chemistry sets up to the amounts stated.

NOTE The quality of the chemicals used should be appropriate for the experiments described. In particular the chemicals should not contain impurities or blends which allow exothermic and dangerous reactions.

Other substances shall not be supplied with the toy. However, the instructions for use may prescribe the use of other substances, e.g. sugar, that are not considered as dangerous substances or preparations within the definitions contained in Directives 67/548/EEC (with subsequent amendments and adaptations) and 88/379/EEC (with subsequent amendments and adaptations).

Additionally, denatured methylated spirits and the reagents referred to in Table 2 may be prescribed for use, but shall not be provided with the toy.

The chemical substances and preparations listed in Table 1, in so far as they are classified as dangerous within the definitions contained in the above Directives, shall have their containers labelled accordingly.

#### 6 Equipment

##### 6.1 General requirements

Chemistry sets shall be supplied with instructions for use, the containers necessary for carrying out the experiments described in the instructions for use, eye protection and if required a test tube stand.

Supplementary sets shall be supplied with a contents list as specified in clause 8 and marked in accordance with 7.3.3.

All experiments described shall be evaluated by the manufacturer. In particular, substances shall not be produced in amounts that are injurious to health.

NOTE Any known hazards arising from the use of the toy, especially during the experiments, should be described in detail (e.g. handling of chemicals, handling of glassware, retarded boiling point, back-flow of barrier water into overheated glassware, evolution of gases and handling of burners and other heating sources).

<sup>1)</sup> At present the following amendments and adaptations exist: 69/81/EEC, 70/89/EEC, 71/144/EEC, 73/146/EEC, 75/409/EEC, 76/907/EEC, 79/370/EEC, 79/831/EEC, 81/957/EEC, 82/232/EEC, 83/467/EEC, 84/449/EEC, 86/431/EEC, 87/432/EEC, 88/302/EEC, 88/490/EEC.

<sup>2)</sup> At present the following adaptation exists: 89/178/EEC.