

# DIN EN 71-5:2013-08 (E)

## Safety of toys - Part 5: Chemical toys (sets) other than experimental sets

---

<b>Contents</b>		<b>Page</b>
Foreword .....		4
Introduction .....		6
1	Scope .....	7
2	Normative references .....	7
3	Terms and definitions .....	7
4	Plaster of Paris (gypsum) moulding sets .....	9
4.1	Marking .....	9
4.2	First aid information .....	9
4.3	Safety rules .....	9
5	Ceramic and vitreous enamelling materials supplied in miniature workshop sets .....	10
5.1	Chemical mixtures .....	10
5.2	Marking .....	10
5.3	First aid information .....	10
5.4	Safety rules .....	11
6	Oven-hardening plasticised PVC modelling clay sets .....	11
6.1	Chemical substances .....	11
6.2	Marking .....	12
6.3	First aid information .....	12
6.4	Safety rules .....	12
7	Plastic moulding sets .....	12
7.1	Polystyrene granules .....	12
7.2	Embedding sets .....	13
8	Adhesives, paints, lacquers, varnishes, thinners and cleaning agents (solvents) supplied or recommended in model sets .....	14
8.1	General .....	14
8.2	Adhesives .....	14
8.3	Water-based paints and lacquers .....	20
8.4	Solvent-based paints, lacquers, thinners and cleaning solvents .....	22
9	Marking .....	24
9.1	General .....	24
9.2	Marking of the primary packaging .....	24
9.3	Marking of individual containers and any packagings .....	24
10	Instructions for use .....	25
10.1	General .....	25
10.2	Contents list .....	25
10.3	Advice for adult supervision .....	25
10.4	Safety rules .....	26
10.5	Instructions for carrying out the activities .....	26
10.6	Spills and disposal of chemicals .....	26
11	Test methods .....	27

11.1	General .....	27
11.2	Determination of elements in ceramic and vitreous enamelling materials .....	27
11.3	Determination of plasticisers in oven-hardening polyvinyl chloride (PVC) modelling clay sets .....	32
11.4	Determination of the emission of benzene, toluene and xylenes from oven-hardening plasticised PVC modelling clay sets and plastic moulding sets .....	44
11.5	Determination of styrene content in polystyrene granules .....	47
11.6	Determination of organic solvents .....	50
11.7	Combined approach for the determination of plasticisers in solvent-based adhesives and in solvent-based paints and lacquers, film-forming agents in paints and lacquers and modifiers in solvent-based paints and lacquers .....	70
Annex A (normative) Environmental, health and safety precautions .....		82
Annex B (informative) Organic solvents .....		83
Annex C (informative) Maximum permitted element concentrations for the compounds permitted in ceramic and vitreous enamelling materials .....		85
Annex D (informative) Validation of test methods .....		86
Annex E (informative) Rationale .....		87
E.1	General remark .....	87
E.2	Primary packaging (4.1; 5.2; 6.2; 7.1.2; 7.2.2; 8.2.1.2.2; 8.2.2.6; 8.3.2; 8.4.3; 9.2) .....	87
E.3	Minimum age (4.1; 5.2; 6.2; 7.1.2; 7.2.3; 8.2.1.2.3; 8.2.1.3.3; 8.2.2.6; 8.3.3; 8.4.3) .....	87
E.4	Phthalates (6.1 Table 2; 8.2.2; 8.4.1) .....	87
E.5	Benzene (6.1, Table 3; 8.2.2.4, Table 12; 8.4.1, Table 16) .....	88
E.6	Preservatives (7.2.1; 8.2.1.1; 8.3.1) .....	88
Annex F (informative) Significant technical changes between this European Standard and the previous version .....		89
Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 2009/48/EC .....		90
Bibliography .....		91