Requirement of Japan Toy Safety Standard ST2012 Part 3 & Japan Food Sanitation Law

Material of Toy		Test Items	Max. Requirement	
All materials (excluding textiles, ink & similar materials used for graphic instrument)		Coloring Matter	Not recognized	
Polyvinyl Chloride (PVC)		Consumption of Potassium Permanganate	50 μg/ml	
		Residue on Evaporation	50 μg/ml	
		Lead	1 μg/ml (as Pb)	
		Arsenic	0.1 μg/ml (as As2O3)	
		Cadmium	0.5 μg/ml (as Cd)	
Polyethylene (PE)		Consumption of Potassium Permanganate	10 μg/ml	
		Residue on Evaporation	30 μg/ml	
		Lead	1 μg/ml (as Pb)	
		Arsenic	0.1 μg/ml (as As2O3)	
Decalcomania, Folded Paper, and Rubber-made Toys		Lead	1 μg/ml (as Pb)	
		Arsenic	0.1 μg/ml (as As2O3)	
Vinyl Chloride resin coating		Consumption of Potassium Permanganate	50 μg/ml	
		Residue on Evaporation	50 μg/ml	
Paint coatings (including vinyl chloride resin coating)		Heavy Metals	Sb ≤ 60 mg/Kg ; As ≤ 25 mg/Kg ; Ba ≤ 1000 mg/Kg ; Cd ≤ 75 mg/Kg ; Cr ≤ 60 mg/Kg ; Pb ≤ 90 mg/Kg ; Hg ≤ 60 mg/Kg ; Se ≤ 500 mg/Kg	
Metal Parts (fit into small part cylinder)		Heavy Metals (lead)	Pb ≤ 90 mg/Kg	
PVC, PU or Rubber (designated toys)	PVC	6 Phthalates	Intended to come into direct contact with infant mouth	BBP, DBP, DEHP, DIDP, DNOP and DINP shall not exceed 0.1%
		4 Phthalates	NOT Intended to come into direct contact with infant mouth	BBP, DBP, DEHP, and DINP shall not exceed 0.1%
	PU or rubber	6 Phthalates	Intended to come into direct contact with infant mouth	BBP, DBP, DEHP, DIDP, DNOP and DINP shall not exceed 0.1%
		3 Phthalates	NOT Intended to come into direct contact with infant mouth	BBP, DBP and DEHP shall not exceed 0.1%
PVC (toys under 6, but NOT designated toy)		2 Phthalates	DEHP and DINP shall not exceed 0.1%	
Textile Material	≤ 24 Months	Formaldehyde	Absorbance ≤ 0.05	
	> 24 Months		75 mg/Kg	
	≤ 3 years of age	Coloring Matter	Color not deeper than standard solution	
	> 3 years of age		Color not deeper than 3x standard solution	
Ink & similar materials used for graphic Instruments		Heavy Metals (8 elements)	Sb ≤ 60 mg/Kg ; As ≤ 25 mg/Kg ; Ba ≤ 1000 mg/Kg ; Cd ≤ 75 mg/Kg ; Cr ≤ 60 mg/Kg ; Pb ≤ 90 mg/Kg ; Hg ≤ 60 mg/Kg ; Se ≤ 500 mg/Kg	
	3-6 yrs	Coloring Matter	Not recognized	
	≥ 6 yrs		Color not deeper than 10x standard solution	
Rubber Pacifiers		Lead	1 μg/ml (as Pb)	
		Total Lead and Cadmium	10 mg/kg	
		Phenol	5 μg/ml	
		Formaldehyde	Negative	
		Zinc	1 μg/ml	
		Residue on Evaporation	40 μg/ml	
Soap Bubble Solution		Surface Active Agent	3% or less	
		Fluorescent Brightener	Nothing	
		Heavy Metals	Nothing	
	Straw-type	Volume of soap Bubble Solution	30 ml or less	
	Non-straw type		600 ml or less	

Toys: General Markings And Warnings

European Market:
All toys shall be directly marked with the following indications:
- Type, batch, serial or model number or other element allowing for the identification of the toy;
- Name, registered trade name or trademark of the manufacturer (and importer if present) and address from which can be contacted.

The CE mark shall be visible, legible and indelible on the toy, on a label or on the packaging. If the CE mark is not visible from outside the packaging (if present), it shall be placed at least on the packaging.

CE Minimum height: 5 mm

US Market:
All toys and their packagings (if present) shall be directly and permanently marked with the following indications:
- Name and address of the manufacturer or distributor;
- Location of production (complete address);
- Date of production;
- Cohort information.

The indication of the country of origin of the toy shall be printed in a legible, permanent and indelible form on the packaging of the toy.

The EU Safety of Toys Directive 2009/48/EC and US Standard for toys ASTM F963 require additional warning indication for certain toys and games intended for children over 36 months.

European Market:
The following indication shall be printed in a position visible at the point of sale of a toy intended for children over 3 years:
- "Warning, Not suitable for children under 36 months." or "Warning, Not intended for children under 3 years." or the warning symbol below accompanied by the word "Warning"

Minimum size: 10 mm

- Statement of the specific hazard (i.e. "`Small parts. Choking hazard`").

US Market:
The following indication shall be printed on the principal display panel of a toy intended for children over 3 years:

⚠ WARNING:
CHOKING HAZARD--Small parts
Not for children under 3 yrs.

The indication shall have the following characteristics:
- The height of the equilateral triangle shall be equal to or exceed the height of the letters of the signal word "WARNING" and separated from it by a distance at least equal to the space occupied by the first letter of the signal word "W".
- The word WARNING shall be in all upper case sans serif letters.
- The size of the elements of the text shall be calculated according to the following table, with reference to the surface/area of the principal display panel:

Area, in.²	0-2	+2-5	+5-10	+10-15	+15-30	+30-100	+100-400	+400
Type Size - Signal Word	3/64 in.	1/16 in.	3/32 in.	7/64 in.	1/8 in.	5/32 in.	1/4 in.	1/2 in.
Type Size - Statement of Hazard	3/64 in.	3/64 in.	1/16 in.	3/32 in.	3/32 in.	7/64 in.	5/32 in.	1/4 in.
Type Size - Other Material	1/32 in.	3/64 in.	1/16 in.	1/16 in.	5/64 in.	3/32 in.	7/64 in.	5/32 in.

The word WARNING is defined "Signal Word", the indication "CHOCKING HAZARD – Small parts" is defined "Statement of Hazard", the indication "Not for children under 3 yrs" is defined "Other material".

Additional warnings and indications are needed for particular kinds of toys (i.e. ballons, aquatic toys, slides, swings, projectile toys, toy scooters, rocking horses, mobiles, functional toys, etc).

GUIDE TO INTERNATIONAL TOY SAFETY REQUIREMENTS

With unmatched industry expertise and active involvement in the development of international toy safety standards, UL's global team of experts can develop comprehensive quality assurance programs to help ensure compliance with regulatory requirements and brand specifications.

No matter where in the world you source or sell, UL's network of accredited laboratories and field services can help mitigate supply chain risk and launch products that delight both children and parents.

For more information contact the ToyTeam@ul.com or visit ul.com/toys

International Toy Safety Summary

Requirement	European Union	United States	Canada	Australia	Japan	China
Mechanical & Physical	EN 71-1:2011 + A2:2013	ASTM F963-11 and 16 CFR 1500.50	Canada Consumer Product Safety Act, Toys Regulations (SOR/2011-17)	AS/NZS ISO 8124.1:2013	ST2012 Part 1	GB6675: 2003+A1: 2005-A
Flammability Test (Textile Material/ Pile Fabric/Pile Materials)	EN 71-2:2011	Title 16 CFR 1610 and ASTM F963-11 A6	Canada Consumer Product Safety Act, Toys Regulations (SOR/2011-17)	AS/NZS ISO 8124.2:2009	ST2012 Part 2	GB6675: 2003+A1: 2005-B
Flammability Test (Solid Material/Toy Products)	EN 71-2:2011	Title 16 CFR 1500.44 and ASTM F963-11 A5	Canada Consumer Product Safety Act, Toys Regulations (SOR/2011-17)	AS/NZS ISO 8124.2-2009	ST2012 Part 2	GB6675: 2003+A1: 2005-B
Toxic Elements	EN71-3:2013	Title 16 CFR 1303, ASTM F963-11, CPSIA	Canada Consumer Product Safety Act, Toys Regulations (SOR/2011-17)	AS/NZS ISO 8124.3:2012	ST2012 Part 3 and Japan Food Sanitation Law	GB 6675:2003 + A1: 2005-C
Cleanliness of Stuffing Material	EN 71-1:2011 + A2:2013	ASTM F963-11; AOAC Ch 16; Pennsylvania Stuffed Toys Act; Massachusetts Law on Stuffed Toy; Ohio Regulations	Canada Consumer Product Safety Act, Toys Regulations (SOR/2011-17); The Upholstered & Stuffed Articles Act - Ontario, Quebec, Manitoba	AS/NZS ISO 8124.1:2013	ST2012 Part 1	GB6675: 2003+A1: 2005-A
Phthalates	REACH Annex XVII item 51/52	CPSIA (6 phthalates); ASTM F963-11 (DEHP only); CA Prop 65 (includes DnHP)	Canada Consumer Product Safety Act, Phthalates Regulations (SOR/2010-298) – 6 phthalates	DEHP	ST2012 Part 3 and Japan Food Sanitation Law	-
Battery-Operated Toy Safety Test	EN 62115: 2005 + A2:2011 + AC:2011 + A11:2012 + AC:2013	ASTM F963-11 section 4.25	-	AS/NZS 62115:2011	-	GB6675: 2003+A1: 2005-A A.A & GB19865: 2005

Abuse Test Conditions for European Union Toy Safety Requirements

Test	Age (Months)	EN 71 Part 1
Drop Test	0 to 18	Onerous Orientation, 850mm (2.8"), 5 drops onto 2mm rubber over 4mm steel plate
	>18 to 36	850mm (2.8"), 5 drops onto 2mm rubber over 4mm steel plate
Impact Test	0 to 36	1kg mass from 100 mm
Tip Over Test	0 to 36	3 time, most onerous orientation
Torque Test	0 to 18	180° or 0.34N-m (3"-lb)
	>18 to 36	180° or 0.34N-m (3"-lb)
Tension Test	0 to 18	Dimension <6mm, 50N (11.2lb); Dimension >6mm 90N (20.2lb); 70N (15.7lb) for seam of soft toy; 60N (13.5lb) for protection component
	>18 to 36	Dimension <6mm, 50N (11.2lb); Dimension >6mm 90N (20.2lb); 70N (15.7lb) for seam of soft toy; 60N (13.5lb) for protection component
Compression Test	0 to 18	110N
	>18 to 36	110N
	>36 to 168	*110N
Flexure Test	0 to 18	Bend 30 cycles of 60° Arc. at a rate of 1 cycle/2s., rest 60s; every 10 cycles, 70N (15.7lb) bending force
	>18 to 168	Bend 30 cycles of 120° at a rate of 1 cycle/2s., rest 60s; every 10 cycles, 70N (15.7b) bending force

*For specific items only

Abuse Test Conditions Comparison for International Toy Safety Requirements

Test	Age (Months)	United States: 16 CFR Part 1500 and ASTM F963-11	Canada: Canada Consumer Product Safety Act, Toys Regulations (SOR/2011-17) Health Canada Method Mo1.1 & Mo1.2	Australia: AS/NZS ISO 8124.1:2013	Japan: ST2012 Part 1
Drop Test	0 to 18	Random Orientation or 4.5' (1.37 m), 10 drops	Onerous Orientation, 4.5' (1.372 m), 4 drops	Random Orientation, 138cm (4.53'), 10 drops onto tile, mass ,1.4kg	Random Orientation, 138cm (4.53'), 10 drops, mass, 1.4kg
	>18 to 36	3' (0.91m), 4 drops	4.5' (1.37m), 4 drops	0.93m (3.1'), 4 drops, mass <4.5 kg	0.93m (3.1'), 4 drops, mass <4.5 kg
	>36 to 96	3' (0.91m), 4 drops	3' (0.914m), 4 drop	0.93m (3.1'), 4 drops	0.93m (3.1'), 4 drops, mass <4.5 kg
	>96 to 168	-	-	-	0.93m (3.1'), 4 drops, mass <4.5 kg (magnet only)
Impact Test	0 to 168	-	-	-	1kg mass from 100 mm (magnet only)
Tip Over Test	0 to 96	3 times	-	3 times	3 times
	>96 to 168	-	-	-	3 times (magnet only)
Torque Test	0 to 18	2"-lb (0.23N-m)	8.85"-lb (1N-m) for rattle only	0.45N-m (4"-lb)	180° or 0.45N-m (4"-lb)
	>18 to 36	3"-lb (0.34N-m)	8.85"-lb (1N-m) for rattle only	0.45N-m (4"-lb)	180° or 0.45N-m (4"-lb)
	>36 to 96	4"-lb (0.45N-m)	8.85"-lb (1N-m) for rattle only	70N (15.7-lb)	-
	>36 to 168	-	-	-	180° or 0.45N-m (4"-lb) (magnet only)
Tension Test	0 to 18	10lbs (44.5N)	10lb (44.5N) for all parts excluding eye/ nose; 20lb (9Kg) static load 5 minutes for eye/ nose (50N for rattle)	70N (15.7-lb)	70N (15.7-lb)
	>18 to 36	15lbs (66.8 N)	10lb (44.5N) for all parts excluding eye/nose; 20lb (9Kg) static load 5 minutes for eye/nose	70N (15.7lb)	70N (15.7-lb)
	>36 to 96	15lbs (66.8N)	10lb (44.5N) for all parts excluding eye/nose; 20lb (9Kg) static load 5 minutes for eye/nose	70N (15.7lb)	-
	>36 to 168	-	-	-	70N (15.7-lb) (magnet only)
Tension Test for Magnets	0 to 168	-	-	-	10 times
Compression Test	0 to 18	20lb (89N)	-	114N (25.6lb)	114N (25.6lb)
	>18 to 36	25lb (111.3N)	-	114N (25.6lb)	114N (25.6lb)
	>36 to 96	30lb (133.5N)	-	136N (30.5lb)	-
	>36 to 168	-	-	-	114N (25.6lb) (magnet only)
Flexure Test	0 to 18	Bend 30 cycles of 60°Arc. at a rate of 1 cycle/2s, rest 60s; every 10 cycles, 10lb (45N) bending force	-	Bend 30 cycles of 120° at a rate of 1 cycle/2s, rest 60s; every 10 cycles, 70N (15.7lb) bending force	Bend 30 cycles of 120° at a rate of 1 cycle/2s, rest 60s; every 10 cycles, 70N (15.7lb) bending force
	0 to 96	-	-	Bend 30 cycles of 120° at a rate of 1 cycle/2s, rest 60s; every 10 cycles, 70N (15.7lb) bending force	-
	>18 to 36	-	-	-	Bend 30 cycles of 120° at a rate of 1 cycle/2s, rest 60s; every 10 cycles, 70N (15.7lb) bending force
	>18 to 96	Bending 30 cycle of 60°Arc. at a rate of 1 cycle/2s, rest 60s; every 10 cycles, 15lbs (66.8N) bending force	-	Bending 30 cycle of 60°Arc. at a rate of 1 cycle/2s, rest 60s; every 10 cycles, 70N (15.7lb) bending force	-

Acoustic Requirements for Toys

	European Union	United States	Canada
Standard	EN 71-1:2011 + A2:2013, cl. 4.20 Acoustic requirements	ASTM F963-11, Section 4.5 - Sound Producing Toys	CCPSA Toys Regulation SOR/2011-17- Noise-Producing Toys
Limits	Includes limits for Impulsive and Continuous Sounds at varying exposure levels.	Includes sound pressure limits for Impulsive and Continuous Sound; limits vary based on type of toy (e.g. close to the ear, tabletop, push/pull, etc.).	Limit of 100 dB applies to all toys.
Exemptions	No exemptions, and limits vary based on type of toy.	Exempts toys where sound is dependent on actions of user or by external devices.	No exemptions.

Soluble Element Migration Requirements

	Europe			United States*	Canada	Australia
	2009/48/EC migration as amended by 2012/7/EU & EU 681/2013			CPSIA, 16 CFR 1303 ASTM F963-11	Consumer Product Safety Act, Toys Regulation	AS/NZ ISO 8124.3 2012
Element	Category I mg/kg	Category II mg/kg	Category III mg/kg	-	-	-
Aluminium	5 625	1 406	70 000	-	-	-
Antimony	45	11,3	560	60	1000	60
Arsenic	3,8	0,9	47	25	1000	25
Barium	1 500	375	18 750	1000/250 (1)	1000	1000/250 (1)
Boron	1 200	300	15 000	-	-	-
Cadmium	1,3	0,3	17	75/50 (1)	1000	75/50 (1)
Chromium	-	-	-	60/25 (1)	-	60/25 (1)
Chromium (III)	37,5	9,4	460	-	-	-
Chromium (VI)	0,02	0,005	0,2	-	-	-
Cobalt	10,5	2,6	130	-	-	-
Copper	622,5	156	7 700	-	-	-
Lead	13,5	3,4	160	90	-	90
Manganese	1 200	300	15 000	-	-	-
Mercury	7,5	1,9	94	60/25 (1)	-	60/25 (1)
Nickel	75	18,8	930	-	-	-
Selenium	37,5	9,4	460	-	1000	500
Strontium	4 500	1 125	56 000	-	-	-
Tin	15 000	3 750	180 000	-	-	-
Organic tin	0,9	0,2	12	-	-	-
Zinc	3 750	938	46 000	-	-	-

• Category I: Dry, brittle, powder like or pliable materials; • Category II: Liquid or sticky materials;
• Category III: Scraped-off materials. * Note: Specific US States have additional chemical restrictions.
(1) Limit for Modeling Clay only

Total Elements

Element	Europe: REACH Annex XVII	United States: CPSIA	Canada: Consumer Product Safety Act, Toys Regulation 2011-17
Lead	Restricted	90 Surface coating; 100 Substrate	90 surface coating
Cadmium	Restricted	-	-
Mercury	Restricted	-	Not permitted

All values are given in parts per million (ppm) – same as mg/kg