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TOY QUALITY SAFETY MANUAL — VIII

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PREFACE

People demand more and more toys for their children as living standard is improved. However, toy safety attracts global attention. Since many countries update and improve their regulations related to toy safety, toy industries face huge challenges.

SGS has set up offices and laboratories in Hong Kong, Shenzhen, Ningbo, Shanghai, Changzhou, and Qingdao to satisfy various market demands of toys by top technologies. With one-stop test certification and other quality assurance processes, SGS is your reliable partner and can help you win target market.

ABOUT SGS

SGS is the world's leading inspection, verification, testing and certification company. SGS is recognized as the global benchmark for quality and integrity.

With more than 97,000 employees, SGS operates a network of over 2,600 offices and laboratories around the world.



TOY SAFETY STANDARDS AROUND THE WORLD

TABLE-1: INTERNATIONAL TOY SAFETY STANDARDS:

Test Item	Australia	Canada	Europe	Brazil	Germany	New Zealand	America	International	Japan	China
Physical and Mechanical Test	AS/NZS 8124-1	Toy Regulation (SOR/2011-17) of Canada Consumer Product Safety Act (CCPSA)	EN71-1	NM 300-1	DIN EN71-1	AS/NZS 8124-1	16 CFR 1500, ASTM F963	ISO 8124-1	ST 2016-1	GB 6675.1 GB 6675.2
Flammability Test (Textile Materials)	AS/NZS 8124-2		EN71-2	NM 300-2	DIN EN71-2	AS/NZS 8124-2	16 CFR 1610, ASTM F963	ISO 8124-2	ST 2016-2	GB 6675.3
Flammability Test (other materials)	AS/NZS 8124-2		EN71-2	NM 300-2	DIN EN71-2	AS/NZS 8124-2	16 CFR 1500.44, ASTM F963	ISO 8124-2	ST 2016-2	GB 6675.3
Analysis on Toxic Elements (Heavy Metal)	AS/NZS 8124-3		EN71-3	NM 300-3	DIN EN71-3	AS/NZS 8124-3	16 CFR 1303, CPSIA, ASTM F963	ISO 8124-3	ST2016-3/ Food Sanitation Law(Toys)	GB 6675.4 GB 24613
Stuffing Cleanliness Test (Visual)	AS/NZS 8124-1		EN71-1	NM 300-1	DIN EN71-1	AS/NZS 8124-1	ASTM F963	ISO 8124-1	ST 2016-1	GB 6675.2
Stuffing Cleanliness Test (Chemical)	-	-	-	-	-	-	Pennsylvania Regulations	-	-	-
Color Fastness against Saliva and Sweat	-	-	-	-	DIN 53160, LFGB 82.10.1	-	-	-	-	-
DEHP Contents	Consumer Protection Notice No .11	-	-	-	-	-	ASTM F963	-	-	-
Phthalates Contents	-	Phthalates Regulations (SOR/2016-188)	REACH Annex 17 entry 51.52	Ordinance n° 563	REACH Annex 17 entry 51.52	-	CPSIA, AB1108	ISO 8124-6	ST2016-3/ Food Sanitation Law (Toys)	GB 6675.1 GB 24613
Azo Dye	-	-	REACH Annex 17 entry 43	-	REACH Annex 17 entry 43	-	-	-	-	-
Test on Battery Operated Toys	AS/NZS 62115	-	EN 62115	NM 300-6	DIN EN 62115	AS/NZS 62115	ASTM F963	IEC 62115	ST 2016-1	GB 19865
Electromagnetic Compatibility	AS/NZS CISPR 14 - 1	ICES-003	2014/30/EU	-	2014/30/EU	AS/NZS CISPR 14 - 1	FCC PART 15	CISPR 14 - 1 & - 2	Electrical Appliance and Material Safety Law	GB 4343
Cosmetics	Industrial Chemicals Notification and Assessment Act 1989, amendment to the 1989 Act	Cosmetic. Regulations CRC c.869	EC No.1223/2009	-	EC No.1223/2009	-	FDA, Food Drug and Cosmetics Regulations (21 CFR)	-	-	Hygienic Standard for Cosmetics

TABLE-2: EUROPEAN, AMERICAN AND JAPANESE TOY SAFETY-REQUIREMENTS IN PHYSICAL TEST

TEST ITEM		SOR 2011-17		AS/NZS 8124-1			EN 71-1		REMARKS
		Under 36 month	36 month and over	0-18 month	19-36 month	37 -96month	36 month and over	Under 36 months	
Abuse Test	Torque Force	For Rattles: 1N-m/10s	—	0.45N.m/10s			Specified toys, such as: Mouth-actuated Toys and Suction Cup on Projectile toys: 0.34N.m/10s	0.34N.m/10s	This test is applied to all protruding parts or components of toys that can be grasped by the thumb and forefinger of a child.
	Tensile Force	For all toys other than rattle and eye/nose: 42.5N/10s; For rattle; 50N /10s For Eye/Nose Pull: 20 lbs (90N), 5min.		70N/10s			Specified toys, such as: Tensile force of protective component other than suction cup on projectile toys: 60N/10s; Mouth-actuated toys and suction cup on projectiles toys: $d \leq 6\text{mm}$, 50N/10s; $d > 6\text{mm}$, 90N/10s	$d \leq 6\text{mm}$, 50N/10s; $d > 6\text{mm}$, 90N/10s Seam: 70N/10s Paperboard: 25N/10s	Tensile force test shall be carried out on the same part of torque force test.
	Bite Force	—		—			—	—	—
	Compression	—		114N/10s		136N/10s	Specified toys, such as: toys with driving device: 110N/10s	110N/10s	This test is applied to a part that can be touched by children but can not be impacted during the drop and impact test.
	Drop	1.367m height, 4 times	0.909m height, 4 times	Total weight < 1.4 kg: 1.38m height, 10 times	Total weight < 4.5kg: 0.93m height, 4 times		Specified toys, such as: toys with driving device: at a height of 85cm/5 times	At a height of 85cm/5 times	—
	Tip Over	—		3 times for large and bulky toy. Large and bulky toy: (Projected surface) $S > 0.26\text{m}^2$ or (Volume) $V > 0.08\text{m}^3$			Specified toys, such as: toys with driving device: the same as toys for children under 3	(Projected surface) $S > 0.26\text{m}^2$; or the (subject volume) $V > 0.08\text{m}^3$; or the weight of toy $\geq 4.5\text{kg}$; 3 times tip over; no drop test required	—
	Tumbled Down the Stairs	—		—			—	—	—
	Impact Text for Toys Covering the Face	—		A steel ball with a diameter 16mm and mass of 16.9g, fall from a height 130cm and drop onto the toy in the area that cover the eyes in normal use.			—	—	—
	Impact	—		—			Specified toys, such as: toys with driving device: a round piece with a diameter of 80mm, and a weight of 1kg, at a height of 100mm/1 time	A round piece with a diameter of 80mm, and a weight of 1kg, at a height of 100mm/1 time	—

TEST ITEM		SOR 2011-17		AS/NZS 8124-1			EN 71-1		REMARKS
		Under 36 month	36 month and over	0-18 month	19-36 month	37-96 month	36 month and over	Under 36 months	
Abuse Test	Flexure	—		Twist 120 degrees, a circle includes 2 times and costs 2 seconds, 30 times for wires intended to bent, stop for 60s after 10 times; 1 time for wire not designed but likely to be bent. (Precondition: 70N can twist 60 degrees)			Twist 120 degrees, a circle includes 2 times and costs 2 seconds; 30 times for wires intended to bent, 1 time for wires not designed and intended to be bent but likely to occasionally or accidentally be bent; stop for 60 seconds after 10 times (precondition: 70N can twist 60 degrees)		
	Dynamic Strength	—		For toy other toy scooter: Load the toy for children under 3 years with 25kg load, or 50kg load for toy intended for over 3 years, in a position corresponding to the normal use of the toy, impact a non-flexible steps (50mm height) with 2 +/- 0.2m/s; 3 times; For toy scooter: Load the scooter intended for user up to 50kg with totally 54.5kg (include cushion and articulate arms) and 29.5kg (include cushion and articulate arms) for user of 20kg or less. Using a platform with a height of 250mm and a mass 4.8kg to support the load to the platform of the scooter and secure the load with strap to the scooter. Impact a non-flexible steps (50mm height) with 2 +/- 0.2m/s; 3 times;			According to the test age, a driving toy carrying correspondent load (29.5kg for children under 3; and 54.5kg for children above 3 years old) impacts a non-flexible step (50mm high) with 2 ± 0.2m/s; 3 times		This test is applied to ride-on toys that can be drove by children.
Strength Test	Static Strength	Have requirement but haven't test method and criteria. Could refer ASTM F963		For ride on toy/seat other than toy scooter: under 36 months, 35kg; 36-96 months, 80kg; 96 months and over, 140kg For toy scooter: 50kg for user of 20kg or less. 100kg for user up to 50kg.			1) Ordinary Toy: under 3, 25kg; above 3 years old, 50kg; 2) scooter: a) suitable to a child's weight ≤ 20kg: 50 kg; b) other scooter: 100kg; c) the principle and assistant devices of the handle are locked at the same time: the middle suspending part 50kg × 2. Only the assistant lock is working as a device. Bottom up the scooter, and lock both the principle and assistant devices: 25 kg × 2.		Toys intended to bear the weight of children.
	Sideways	Have requirement, but haven't test method and criteria. Could refer ASTM F963		Exemption: Toys with seat height from ground is less than 27cm and children's feet are available for stabilization are exempted. Feet available for stabilization: a tilt platform of 10 degrees, load toy intended for children under 3 years with 25kg mass, while 50kg for toy intended for children over 3 years; Feet not available for stabilization: a tilt platform of 15 degrees, load toy intended for children under 3 years with 25kg mass, while 50kg for toy intended for children over 3 years;			For toys intended for children of 36 months and over, if foot can reach the ground without any limitation to the sideways, the sides stability can be exempted. A tilt platform of 10 degrees, bearing 25kg for children under 3 years, 50kg for others		The load is added to the most unfavorable part of the surface.
Stability Test	Front and Rear Stability	Have requirement, but haven't test method and criteria. Could refer ASTM F963		A tilt platform of 15 degrees, load toy intended for children under 3 years with 25kg mass, while 50kg for toy intended for children over 3 years.			A tilt platform of 10 degrees, bearing 25kg for children under 3 years, 50kg for others		The load is added to the most unfavorable part of the surface.
	Gap	—		<5mm or >12mm			<5mm or >12mm		Gap between movable parts, or that wheels and toys (ride-on toy), or that between colockwork springs, and that between hinges

TABLE-2: EUROPEAN, AMERICAN AND JAPANESE TOY SAFETY-REQUIREMENTS IN PHYSICAL TEST

TEST ITEM		ASTM F963			ST 2016		
		0-18 months	19-36 months	37-96 months	Under 18 months	18-36 months	Above 36 months
Abuse Test	Torque Force	2inch.lb/10s	3inch.lb/10s	4inch.lb/10s	0.45 N·m For all under 3 years toys, up to 14 yrs suction cup, toy contain marble; liquid filled toy, mouth actuated toy, protective component and magnetic toy.		
	Tensile Force	10lb/10s	15lb/10s	15lb/10s	70 N For all under 3 years toys, up to 14 yrs suction cup, liquid filled toy, toy contain marble, mouth actuated toy, protective component and magnetic toy.		
	Compression	20lb/10s	25lb/10s	30lb/10s	114 N For all under 3 years toys, up to 14 yrs suction cup, toy contain marble, liquid filled toy, protective component and magnetic toy.		
	Drop	Toy weight < 3lb, 4.5 feet high/10 times	Toy weight < 4lb, 3 feet high/4 times	Toy weight < 10lb, 3 feet high/4 times	1.38m, 10 drops for all toys weighing less than 1.4kg	0.93m, 4 drops for all toys weighing less than 4.5kg	
	Tip Over	(Projected surface) $S > 400\text{in}^2$ (0.25m ²); or (subject volume) $V > 3\text{ft}^3$ (0.08m ³) large bulky toys; 3 times tip over; no drop test required.			(Projected surface) $S > 0.26\text{m}^2$ or the (subject volume) $V > 0.08\text{m}^3$ large bulky toys 3 times For all under 3 years toys, up to 14 yrs suction cup, toy contain marble, liquid filled toy, protective component and magnetic toy.		
	Tumbled Down the Stairs	Toy weight between 3-10lb, with wheels: 6-step stair × 4 sides × 2 times tip over			—		
	Impact Text for Toys Covering the Face	A steel ball with a diameter of 5/8in (16mm) and a weight 0.56oz (15.8g), fall from a height of 50in (1.3m) and drop on a eye-protecting part of the face mask.			A steel ball with a diameter 16mm and mass of 16.9g, fall from a height 130cm and drop onto the toy in the area that cover the eyes in normal use.		
	Impact	Magnet Toys: a round piece with a diameter of 3.1 in. (78.7mm), and a weight of 2.2 lb, at a height of 4.0 in. (101.6mm)/1 time.			For toy with magnet 1kg/100mm		

TEST ITEM		ASTM F963			ST 2016		
		0-18 months	19-36 months	37-96 months	Under 18 months	18-36 months	Above 36 months
Abuse Test	Flexure	Twist 120 degrees , a circle includes 2 times and costs 2 seconds, 30 times for wires not designed and intended to be bent but likely to occasionally or accidentally be bent;; stop for 60 seconds after 10 times 10lb can twist 60 degrees for children under 18 months, 15lb can twist 60 degrees for children over 18 months			Twist 120 degrees, a circle includes 2 times and costs 2 seconds, 30 times for wires intended to bent, stop for 60s after 10 times. (Precondition: 70N can twist 60 degrees)		
	Dynamic Strength	According to the test age, a driving toy carrying correspondent load impacts a non-flexible step (50mm high) with 2±0.2m/s; 3 times			Load the toy for children under 3 years with 25 kg load, or 50 kg load for toys intended for over 3 years, in a position corresponding to the normal use of the toy, impact a non-flexible steps(50mm height) with 2 +/- 0.2 m/s; 3 times;		
Strength Test	Static Strength	In accordance with table 7, bearing a load that is as three times as weight corresponding to the max age. If the toy is intended to accommodate more than 1 child, the test load should be two times the weight indicated in table 7 or manufacture' s stated weight which one is greater.			1) Toys other than swing: For ride on toy/ seat under 36 months, 35kg; 36-96 months, 80kg; 96 months and over, 140kg 2) Swing: The suspension point is ≥ 120cm from the floor: 200kg, 1h; suspension point <120cm from the floor: 66kg, 1h		
	Sideways	Exemption: The legs of children are unrestricted in sideway and the height of a seat is less than 1/3 of the child: 1) foot can reach the ground; a tilt platform of 10 degrees; bearing the weight of the child. 2) foot can not reach the ground; a tilt platform of 15 degrees, bearing the weight of the child.			Feet available for stabilization: a tilt platform of 10 degrees, load toy intended for children under 3 years with 25kg mass, while 50kg for toy intended for children over 3 years; Feet not available for stabilization: a tilt platform of 15 degrees, load toy intended for children under 3 years with 25kg mass, while 50kg for toy intended for children over 3 years;		
Stability Test	Front and Rear Stability	A tilt platform of 15 degrees, bearing the weight of the child.			A tilt platform of 15 degrees, load toy intended for children under 3 years with 25kg mass, while 50kg for toy intended for children over 3 years.		
	Gap	<5mm (3/16 inch) or >13mm (1/2 inch)			< 5mm or >12mm		

- Annotations:** 1. No sharp edge or point shall be produced in normal use or any of the above mentioned abuse test. (Sharp edge and point tester can be applied for this purpose), and no small parts shall be contained in toys for children under 36 months.
2. All connecting screws shall have countersink treatment (that is, no screw head shall be protruding).
3. Wooden toy shall have a smooth surface without any thorn, worm or worm hole, and the wood sections shall not loose.
4. In case of other items not listed in the above table or any negligence, please refer to the latest version of ASTM F963, EN 71-1, SOR 2011-17, AS/NZS 8124-1 and ST 2016.

TABLE-3: REACH ANNEX XV II ENTRY 51.52, AMERICAN (CALIFORNIA) REQUIREMENTS CALIFORNIA BILL AB 1108, AMERICAN CPSIA PHTHALATES AND CANADA PHTHALATES REGULATIONS (SOR/2016-188)

PHTHALATES		REACH Annex XVII 51.52	California Bill AB 1108		CANADA		CPSIA	
DIDP	0.1%	plasticized material on toys and childcare articles which can be placed in the mouth	0.1%	Any toys and childcare articles which can be placed in mouth for children under 3.	0.1%	The vinyl in any part of a toys and childcare articles that can, in a reasonably foreseeable manner, be placed in the mouth of children under 4	—	
DNOP								
DINP								
DEHP	0.1%	Scope : 1. Used as substrate or in mixture in toys and children articles – effective Jan. 7, 2019 2. Placing toy and childcare articles on the market – effective Jan. 7, 2019 3. Placing articles on the market – effective Jul. 7, 2020	0.1%	Any toys and childcare articles	0.1%	The vinyl in any part of a toys for children under 14 and childcare articles for children under 4	0.1% Any toys and childcare article	
DBP								
BBP								
DIBP								
DPENP								
DHEXP (DnHP)	—							
DCHP								



TOYS HEAVY METALS REQUIREMENTS

MAXIMUM ACCEPTABLE ELEMENT MIGRATION FROM TOY MATERIALS

	USA		EUROPE				CANADA	AUSTRALIA	
STANDARDS	CPSIA	ASTM F963	EN 71-3 (2009 / 48 / EC)				CCPSA	AS/NZS 8124 PART3	
MATERIALS	COATINGS	COATINGS / SUBSTRATES	MODELING CLAY (IN TOYS)	DRY, FRAGILE, POWDERY AND BENDY MATERIAL (UNIT: MG/KG)	LIQUID OR GLUTINOUS MATERIALS (UNIT: MG/KG)	SCRAPING TOY MATERIALS (UNIT: MG/KG)	COATINGS	TOY MATERIALS EXCEPT MODELLING CLAY	MODELLING CLAY
REQUIREMENTS	MG / KG (PPM)	MG / KG (PPM)	MG / KG (PPM)	MG / KG (PPM)	MG / KG (PPM)	MG / KG (PPM)	MG / KG (PPM)	MG / KG (PPM)	MG / KG (PPM)
Lead in Substrates in mg/kg (ppm)	100 T	100 T		-	-	-	90 T (2)	-	-
Antimony (Sb)	-	60	60	45	11.3	560	1000*	60	60
Arsenic (As)	-	25	25	3.8	0.9	47	1000*	25	25
Barium (Ba)	-	1000	250	1500	375	18750	1000*	1000	250
Cadmium (Cd)	-	75	50	1.3	0.3	17	1000*	75	50
Chromium Cr (III)	-	60	25	37.5	9.4	460	-	60	25
Chromium Cr (VI)	-			0.02	0.005	0.053**			
Lead (Pb)	90 T	90 T (coating)/ 90	90	13.5	3.4	160	90 T	90	90
Mercury (Hg)	-	60	25	7.5	1.9	94	Not Allowed	60	25
Selenium (Se)	-	500	500	37.5	9.4	460	1000*	500	500
Aluminium (Al)	-	-	-	5625	1406	70000	-	-	-
Boron (B)	-	-	-	1200	300	15000	-	-	-
Cobalt (Co)	-	-	-	10.5	2.6	130	-	-	-
Copper (Cu)	-	-	-	622.5	156	7700	-	-	-
Manganese (Mn)	-	-	-	1200	300	15000	-	-	-
Nickel (Ni)	-	-	-	75	18.8	930	-	-	-
Strontium (Sr)	-	-	-	4500	1125	56000	-	-	-
Tin (Sn)	-	-	-	15000	3750	180000	-	-	-
Organotin (Organic Sn)	-	-	-	0.9	0.2	12	-	-	-
Zinc (Zn)	-	-	-	3750	938	46000	-	-	-

- (1) Toy Material Category 1: Solid toy material from which powder - like material is released during playing (e.g. chalk, crayons, modelling compounds).
 Toy Material Category 2: Fluid or viscous toy material which can be ingested and / or to which dermal exposure occurs during playing (e.g. bubble solutions, finger paints, glue sticks).
 Toy Material Category 3: Solid toy material with or without a coating which can be ingested as a result of biting, toothscrapping, sucking or licking (e.g. paints, rubber, PVC, plush fabrics, steel, foam, leather).
- (2) Products other than kitchen utensils that are brought into contact with the user's mouth in the course of normal use; and products intended for use in play or learning by children under the age of three years old.

All requirements are soluble content except those with T (Total Content)

* : Soluble in different condition

** : Directive (EU) 2018/725 amending requirements of Cr^{VI} , the effective date is Nov. 18, 2019

JAPAN TOY SAFETY STANDARD ST 2016 PART 3

MATERIALS OF TOYS		TEST ITEM	MAXIMUM REQUIREMENT
PVC excluding coatings		Arsenic	≤0.1μg/mL
		Cadmium	≤0.5μg/mL
		Evaporation residue	≤50μg/mL
		Heavy metals	≤1μg/mL (as lead)
		Potassium permanganate consumption	≤50μg/mL
Polyethylene (PE)		Arsenic	≤0.1μg/mL
		Evaporation residue	≤30μg/mL
		Heavy metals	≤1μg/mL (as lead)
		Potassium permanganate consumption	≤10μg/mL
Decalcomania / Folded paper and rubber made toys (excluding rubber pacifiers)		Arsenic	≤0.1μg/mL
		Heavy metals	≤1μg/mL (as lead)
		Evaporation residue	≤50μg/mL
PVC Coating		Potassium permanganate consumption	≤50μg/mL
	Paint coating including PVC coating	Soluble heavy metals	≤60mg/kg (antimony)
≤25mg/kg (arsenic)			
≤1000mg/kg (barium)			
≤75mg/kg (cadmium)			
≤60mg/kg (chromium)			
≤90mg/kg (lead)			
≤60mg/kg (mercury)			
≤500mg/kg (selenium)			
Rubber pacifiers		Evaporation residue	≤40μg/mL
		Formaldehyde	Negative
		Heavy metal content (cadmium and lead)	≤10μg/g each
		Heavy metals	≤1μg/mL (as lead)
		Phenol	≤5μg/mL
		Zinc	≤1μg/mL
		DBP	0.1%
Polyvinyl chloride(PVC), Polyurethane material, Rubber(natural, synthetic), Silicon rubber		BBP	0.1%
		DEHP	0.1%
		DINP	0.1%
		DIDP	0.1%
		DNOP	0.1%
	Soap		Surface active agent
		Fluorescent brightener	Not allow
		Heavy metal (as lead)	1μg/g
		Volume of Soap bubble solution	30ml (produced by straw-type toys) 600ml (produced by non-straw-type toys)
		Small part metal unless fully coated	90mg/kg
Textile material	< 24 months	Formaldehyde	Absorbance 0.05 or 16μg/g
	> 24 months		75μg/g
All material	Textile material	Coloring matter: < 3 years	Not darker than standard solution
		Color mater: 3 years or > 3 years	Not darker than 3 times of standard solution
	Ink & the like for graphic	Coloring matter	3-6 years Not recognized > 6 years Not deeper than 10 times than standard solution
		Other than textile material and ink of the like	No dissolution color observe

USA FEDERAL AND STATE LEGISLATION (REPRESENTATIVE EXAMPLES)

ITEM	CITATION	SUBSTANCE	SCOPE
01	- US Public Law 110 – 314 - Consumer Product Safety Improvement Act of 2008 (CPSIA)	Lead content	- Paints and similar surface coating materials - Substrates
02	- US Public Law 110 – 314 - Consumer Product Safety Improvement Act of 2008 (CPSIA)	Phthalates (BBP, DBP, DEHP, DINP, DiBP, DPENP, DHEXP (DnHP), DCHP)	Toys and childcare articles
03	California 'AB 1108	Phthalates (BBP, DBP, DEHP, DIDP, DINP and DNOP)	Toys and childcare articles
04	California Proposition 65 (Prop 65)	Prop 65 list of chemicals Consumer products	Consumer products
05	U.S. EPA TSCA Title VI CARB ATCM	Formaldehyde Emission	Composite wood products, furniture and other products made from - HWPW-CC - HWPW-VC - PBs - MDFs (including thin-MDFs) - Laminated products (Controlled by TSCA, effective date: Mar 23, 2024)
06	Illinois Lead Poisoning Prevention Act (LPPA)	Lead content	- Paint on toy articles - Childcare articles - Children's jewellery
07	Vermont, An Act relating to Regulation of Toxic Substances	Chemicals of high concern to children (CHCCs)	Products for children under the age of 12
08	Washington ,The Children's Safe Products Act	Chemicals of high concern to children (CHCCs)	For children product under the age of 12
09	State laws California, Hawaii, Illinois, Maine, Maryland, Michigan, Minnesota, New York, Oregon, Rhode Island, Vermont, Washington, Washington DC	Flame retardants	Consumer products
10	The Toxics in Packaging Clearinghouse (TPCH)	The amount of lead, cadmium, hexavalent chromium and mercury	Packaging materials

GENERAL INFORMATION REQUIREMENT FOR US TOYS

UNIFORM PACKAGING AND LABELING REGULATIONS

Should be legibly and durably marked with the following information on packaging:

- Manufacturer, packer, or distributor's name & address (Street Address, City, State & Zip) must be visible at point of purchase.
- Product identification
- Net quantity of the contents shall be expressed in terms of weight or mass, measure, numerical, or combination so as to give accurate information to facilitate consumer comparison (U.S. and metric units)

TRACKING LABEL

Following information should be placed on the product and its packaging permanently:

- The manufacturer or private labeler location
- The name of the manufacturer or private labeler
- Date of production of the product
- Cohort information (including the batch, run number, or other identifying characteristic)

COUNTRY OF ORIGIN MARKING (19 CFR 134)

Shall indicate country of origin legibly marked on product or packaging and must be visible at point of purchase

LAW LABEL FOR STUFFED TOYS (FOR PENNSYLVANIA, OHIO AND MASSACHUSETTS ONLY)

Sewn in label for toy with stuffing material should be marked with blow information:

- All new material
- List of hidden filling materials
- Registration number



WARNING FOR US TOYS

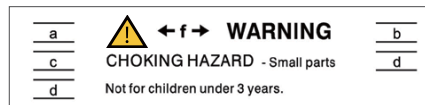
The Consumer Product Safety Commission (CPSC) requires small parts hazard warning label on certain toys and games intended for children over 3 but less than 6 years. It also specifies cautionary labeling is required on small balls (with a diameter of 1.75" or less), balloons, and marbles.

The warning must be conspicuous on the principal display panel, as well as on any accompanying literature (i.e. instructions).

Note:

- 1) The exclamation mark inside the equilateral triangle must be at least half the height of the triangle.
- 2) The signal word "WARNING" must be separated from the triangle (distance f) by at least the size of the first letter of the signal word. i.e. "W".
- 3) This statement layout can be in a square or rectangular shape, with or without border.

DIMENSIONAL REQUIREMENTS (USE SMALL PART WARNING AS AN EXAMPLE)



AREA OF PRINCIPAL DISPLAY PANEL (SQURE INCHES)	TRIANGLE HEIGHT	SIGNAL WORD	HAZARD STATEMENT	OTHER CAUTIONARY MATERIAL)
	Size a	Size b	Size c	Size d
0-2	> 3/64"	3/64"	3/64"	1/32"
> 2-5	> 1/16"	1/16"	3/64"	3/64"
> 5-10	> 3/32"	3/32"	1/16"	1/16"
> 10-15	> 7/64"	7/64"	3/32"	1/16"
> 15-30	> 1/8"	1/8"	3/32"	5/64"
> 30-100	> 5/32"	5/32"	7/64"	3/32"
> 100-400	> 1/4"	1/4"	5/32"	7/64"
> 400	> 1/2"	1/2"	1/4"	5/32"

NEW HARMONISED STANDARDS IN TOY SAFETY DIRECTIVE

EU TOY SAFETY DIRECTIVE – TECHNICAL DOCUMENTATION

APPENDIX C ANNEX II UNDER THE TOY SAFETY DIRECTIVE 2009/48/EC					
ITEM	CITATION	SUBSTANCE	SCOPE	REQUIREMENT/CONTENT, UNLESS OTHERWISE STATED)	METHOD
1	Directive	TCEP	<ul style="list-style-type: none"> Toys intended for children under 36 months Other toys intended to be placed in the mouth 	< 5mg/kg	Not stated
2	2014/79/EU	TCPP		< 5mg/kg	
3		TDCP		< 5mg/kg	
4	Directive EU 2017/898	BPA		≤ 0.04mg/L (migration)	EN71 part 10-11
5	Directive (EU) 2015/2115	Formamide		<ul style="list-style-type: none"> ≤ 200mg/kg otherwise ≤ 20µg/m³ emission (max. 28 days) (foam toy materials) 	Emission ISO 16000-6 and ISO 16000-9
6	Directive (EU) 2015/2116	BIT		≤ 5mg/kg (aqueous)	EN 71 Parts 10-11:2005
7	Directive (EU) 2015/2117	CMI and MI (3:1)		≤ 1mg/kg (aqueous)	Not stated
8		CMI		≤ 0.75mg/kg (aqueous)	Not stated
9		MI		≤ 0.25mg/kg (aqueous)	Not stated
10	Directive (EU) 2017/774	Phenol		<ul style="list-style-type: none"> Polymeric ≤ 5mg/L (migration) As preservative ≤ 10mg/kg (total content) 	EN71 part 10-11

DETAILED DESCRIPTION OF DESIGN / MANUFACTURE

- Product identification (product description, name, type, model / lot / batch / serial No., No. of items ...)
- Colour picture (of sufficient clarity)
- Description of the intended use
- Age suitability / Age grading
- BOM (Bill of Materials)
- SDS (Safety Data Sheets) on chemicals (to be provided if applicable – e.g. mixtures such as liquids, inks, paints, adhesives ...)
- Copy of packaging
- Copy of instructions or leaflet or other documents

SAFETY / RISK ASSESSMENT DOCUMENTATION

- Analysis of potential hazards a toy may present

DESCRIPTION OF THE CONFORMITY ASSESSMENT PROCEDURE FOLLOWED

- Option 1: self assessment / internal product control
- Option 2: third - party verification

TEST REPORTS

COPY OF EC DECLARATION OF CONFORMITY (DOC)

- Complete (all relevant standards including EMC, REACH, etc), signed by the manufacturer
- Translated in all languages required by Member State (format, Annex III of 2009 / 48 / EC)

COPY OF EC TYPE EXAMINATION CERTIFICATE

If applicable

ADDRESSES OF MANUFACTURE AND STORAGE

EU TOY SAFETY DIRECTIVE

– CHEMICAL REQUIREMENTS

All toys placed on the EU market have to comply with all EU standards and regulations related to chemicals, including REACH the EC regulation No 1907/2006.

SOLUBLE HEAVY METALS (EN 71-3)

- Migration limits for 19 restricted elements
- Differentiation of Chromium (III) and Chromium (VI)
- Organotin restricted

■ In order to consider the different exposures, 3 types of materials are distinguished:

Cat 1: Dry, brittle, powder - like or pliable toy material; Cat 2: Liquid or sticky toy material; Cat 3: Scraped off toy material

For more detailed information, see pages 13-14.

CMRs

- Ban on substances classified as Carcinogenic, Mutagenic or Toxic for Reproduction

NITROSAMINES AND NITROSATABLE SUBSTANCES

- Had been harmonized: EN 71-12:2013
- Banned in toys for children under 36 months or mouth-contact toys unless the migration levels are:
 - Below 0.05mg/kg for nitrosamines
 - Below 1mg/kg for nitrosatable substances
- Latest Version : EN 71-12:2016
- (a) Banned in toys for children under 36 months and intended or likely to be placed into the mouth unless the migration levels are:
 - Below 0.01mg/kg for nitrosamines
 - Below 0.1mg/kg for nitrosatable substances
- (b) Banned in toys for children under 36 months not covered by (a), or for children of 36 months and over and intended to be placed into the mouth, or in balloons unless the migration levels are:
 - Below 0.05mg/kg for nitrosamines
 - Below 1mg/kg for nitrosatable substances

FRAGRANCES

- 55 allergenic fragrances restricted
- Additional 11 allergenic fragrances shall be listed and labelled on toy if concentration exceeds 100mg/kg

OLFACTORY BOARD GAMES, COSMETIC KITS AND GUSTATIVE GAMES

- 26 fragrances allowed but labelling required
- Shall comply with Cosmetic Products Regulation (EC) 1223/2009
- Had been harmonized: EN 71-13

CHEMICAL SAFETY ASSESSMENTS

- Toys to be assessed before it is placed on the market
- Must be included in the Technical Documentation

TOY RELEVANT EU LEGISLATION

ALL TOYS

- Directive 2001/95/EC General Product Safety Directive (GPSD)
- Regulation (EC) 1907/2006 REACH (Annex XVII Restricted substances, SVHCs)
- National legislation (e.g.; France - Formamide content in puzzle mats)

TOY SUBSTANCES AND MIXTURES

- Regulation (EC) 1272/2008 Classification, Labelling and Packaging (CLP) Regulation

ELECTRICAL & ELECTRONIC TOYS

- Revised and recast Directive 2011/65/EU (RoHS 2)
- Directive 2014/53/EU (effective date: June 13, 2016) RED (Radio – Controlled Toys)
- Directive 2014/30/EU (effective date: April 20, 2016) EMC (Electro Magnetic Compatibility)
- Directive 2006/66/EC and 2013/56/EU Batteries
- Directive 2014/35/EU (effective date: April 20, 2016) Low Voltage

COSMETIC TOYS

- Cosmetic Products Regulation (EC) 1223/2009

ARTICLES IN CONTACT WITH FOOD

- Food Contact regulation (EC) 1935/2004
- Food Contact Plastics (Regulation (EU) 10/2011)

PACKAGING & RECYCLING

- Directive 94/62/EC on packaging and packaging waste
- Directive 2002/96/EC and 2012/19/EU on waste electrical and electronic equipment (WEEE)

This document contains guidance on toy testing for the Quality Assurance industry. Its content is subject to changes due to new market requirements.

Users are reminded that legislation is the only authentic legal reference information and that information in this document does not constitute legal, technical or other professional advice. SGS does not accept any liability with regard to the contents of this document. For latest updates, please refer to SGS regulatory bulletins SafeGuards written by SGS experts and subscribe for free at <http://www.sgsgroup.com.cn/zh-CN/Consumer-Goods-Retail/SafeGuards.aspx> or contact your local SGS technical team. SGS reserves the right to change the contents of this document without notice.

GENERAL INFORMATION / WARNING REQUIREMENT FOR EU TOYS

All information and warning should be in a language or languages easily understood by consumers, as determined by the Member State concerned.

NEW TOYS SAFETY DIRECTIVE (2009/48/EC)

The following information can be placed on the packaging/instruction only if it is not technically or economically feasible to place it on the toy itself.

- Batch/Serial/Model number
- Manufacturer name and address
- Importer name and address
- Washing instruction (textile items for children under 3 years only)
- CE mark should be present on the toy or packaging as long as they are visible at the point of sale. The height of CE marking should be 5mm at least.



AGE WARNING (EN71-1)

Toys which are not intended for but might be dangerous for children under 3 years, following age warning shall be clearly legible at the point of sale of product and shall appear either on the toy itself or on its packaging if with hazard for children under 3 years:

- Warning. Not suitable for children under 36 months. Small part. (if with small part before or after abuse tests)
- Warning. Not suitable for children under 36 months. Small ball. Choking hazard (if with small ball before or after abuse tests)
- Warning. Not suitable for children under 36 months. Long cord. Strangulation hazard. (if with long cord hazard)
- The phrase: "Not suitable for children under 36 months" maybe substituted by below symbol



FASHION JEWELRY TESTING SERVICES

The demand of fashion jewelry is getting stronger due to the improvement of living standard. There is a global concern on chemicals used in such products which pose a potential health risk to consumer. Therefore, EU, USA, Canada & China are places the following standards to limit chemicals content in jewelry.

EU, US, CANADA & CHINA SUMMARY FOR JEWELRY

COUNTRY	REGULATION	SCOPE	REQUIREMENT
EU	Lead content REACH Annex17 entry 63 (Regulation(EU)No.2015/628)	Jewelry article and article for the general public or accessible parts there of which maybe placed in the mouth by children during normal or reasonably foreseeable conditions of use	For jewelry article, lead content < 0.05%
	Cadmium content REACH Annex17 entry 23 (Regulation(EU)No.2016/217)	Material dependent	Plastic materials <0.01% Paints: ≤0.01% Paints with Zn: > 10% of wt<0.1% Surface coating<0.1% Metal part of jewelry<0.01%
	Nickel release REACH Annex17 Entry 27 2012/C 142/05	Post assemblies which are inserted into pierced parts of the human body and articles intended to come into direct and prolonged contact with the skin	Body piercing ≤0.2 µg/cm ² /week Non - body piercing ≤0.5 µg/cm ² /week
US Prop65	Chapter 313 (SB 929, Statutes of 2010)	Jewelry for children up to the age of 12	≤ 300 ppm total cadmium
US Connecticut	Public Act 10-113 (Substituted House Bill 5314, Session 2010)	Jewelry for children up to the age of 12	≤ 75 ppm total cadmium
Canada	SOR/2018-82	The lead content limits apply to all accessible components of children's jewelry items, whether metallic or non-metallic, including glass and crystal components	≤90mg/kg Lead content ≤130mg/kg Cadmium content
CHN	GB 28480	Jewelry excluding gem	<ul style="list-style-type: none"> ● Nickel release 0.5 µg/cm²/week (non-body piercing) 0.2µg/cm²/week (body piercing) ● Five heavy metals content Pb:1000mg/kg (adult), 300mg/kg (children) Hg:1000mg/kg Cd: 100mg/kg As: 1000mg/kg CrVI: 1000mg/kg ● Soluble heavy metal (applicable for children) Sb: 60mg/kg As: 25mg/kg Ba: 1000mg/kg Cd: 75mg/kg Cr: 60mg/kg Pb: 90mg/kg Hg: 60mg/kg Se: 500mg/kg

SGS enjoys a worldwide leading place in toy test and is able to provide one-stop quality assurance process. With rich experience and technologies in toy test, we are able to provide many buyers and suppliers with a wide range of services, including test, verification and training. SGS will become your reliable partner by providing these services of international level.