



SHANTOU CHENGHAI LUCK STRNG ANIMATION LTD.

Technical Report: (8819)130-0098

May 21, 2019

Date Received: May 10, 2019

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SHANTOU CHENGHAI LUCK STRNG ANIMATION LTD.
CHENGHAI, SHANTOU CITY, GUANGDONG, CHINA

Sample Description:	ANIMAL SERIES / DINOSUAR SEREIES		
Vendor:	N/A	Sample Size:	12
Manufacturer:	N/A	Style No(s):	SEE ATTACHMENT
Buyer:	N/A	SKN/SKU No.:	NOT PROVIDE
Labeled Age Grade:	NOT PRESENT	PO No.:	NOT PROVIDE
Appropriate Age Grade:	NOT REQUESTED	Ref #:	NOT PROVIDE
Client Specified Age Grade:	3+	Country of Origin:	CHINA
Tested Age Grade:	OVER 3 YEARS OF AGE	Assortment No.:	NOT PROVIDE
UPC Code:	N/A	Resubmitted Sample Date:	MAY 18, 2019
Further Information Date:	MAY 18, 2019	2 ND Further Information Date:	MAY 21, 2019
Test Starting Date:	MAY 10, 2019	Test Finished Date:	MAY 21, 2019

EXECUTIVE SUMMARY:

The sample(s) MEETS the following requirement(s):

- The mechanical and physical properties requirements of the tested subclauses of the European Standard, "Safety of toys", EN71: Part 1:2014+A1:2018 clauses 1-7.
- Labeling requirements of "CE marking, manufacturer/ Importer name and address, and product identification" under "Directive 2009/48/EC Safety of Toy".
- The flammability requirements of the European Standard "Safety of Toys", EN 71: Part 2: 2011+A1: 2014.
- The labeling requirements of ASTM F963-17, "Standard consumer safety specification for toy safety".
- The mechanical hazards requirements of ASTM F963-17, "Standard consumer safety specification for toy safety".

To be continued

BUREAU VERITAS SHENZHEN CO.,LTD
DONGGUAN BRANCH

Harvey Xue
Manager, Analytical Lab

BUREAU VERITAS SHENZHEN CO.,LTD
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RT/BC/LL

REMARK

If there are questions or concerns on this report, please contact the following persons:

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EXECUTIVE SUMMARY:

The sample(s) MEETS the following requirement(s):

- The flammability requirement of solids under ASTM F963-17 section 4.2 according to Annex A5, "Flammability testing procedure for solids and soft toys".

The tested component sample(s) MEETS the following requirement(s):

- The migration of certain tested elements in Category III - Scraped off toy material requirements of the European Standard, "Safety of Toys", EN 71 Part 3: 2013+A3:2018.
- The cadmium content requirement of the European Regulation (EC) No. 1907/2006 of the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), Annex XVII concerning the Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles, Item no. 23.
- The BBP, DBP and DEHP content requirements of the European Regulation (EC) No. 1907/2006 of the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), Annex XVII concerning the Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles, Item no. 51.
- The DNOP, DINP and DIDP content requirements of the European Regulation (EC) No. 1907/2006 of the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), Annex XVII concerning the Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles, Item no. 52.
- The total lead content in surface coating requirements of ASTM F963-17, "Standard consumer safety specification for toy safety", Section 4.3.5.1(1).
- The total lead content in substrate requirements of ASTM F963-17, "Standard consumer safety specification for toy safety", Section 4.3.5.2(2)(a).
- The soluble heavy metals content in surface coating requirements of ASTM F963-17, "Standard Consumer Safety Specification for Toy Safety," Section 4.3.5.1(2).
- The soluble heavy metals content in substrate requirements of ASTM F963-17, "Standard Consumer Safety Specification for Toy Safety," Section 4.3.5.2(2)(b).
- The total lead content of 90ppm requirements in surface coating (Consumer Products Safety Improvement Act (CPSIA) of 2008).
- The total lead content of 100ppm requirements in substrate materials (Consumer Products Safety Improvement Act (CPSIA) of 2008).
- The phthalates (BBP, DBP, DEHP, DINP, DIBP, DPENP, DHEXP & DCHP) content requirements of the Consumer Product Safety Improvement Act (CPSIA) of 2008 Sec. 108(a) and 108(c), 16 CFR 1307).
- The total lead content requirements in children products according to the California Proposition 65 settlements of Alameda Superior Court RG 07356892.
- The BBP, DBP, DEHP, DnHP and DIDP content requirements in toys, child care articles and watches according to the California Proposition 65 settlements of County of Sacramento case number 07AS04683, and the Alameda Superior Court case numbers BG07350969, RG08367601, RG07351032 and RG08378050.

To be continued



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EXECUTIVE SUMMARY:

The tested component sample(s) MEETS the following requirement(s):

- The phthalates content requirement of the client's specification.

Note: At the request of the client, the sample(s) was evaluated for use by children 3+.

Note: The manufacturer / importer information was present on the packaging only. It has to be noted that, or according to TSD 2009/48/EC, the manufacturers/ importer shall indicate their name, registered trade name registered trade mark and the address at which they can be contacted on the toy, or, where that is not possible, on its packaging or in a document accompanying the toy."

Note: The product identification is present on the packaging on the sample only. It has to be noted that, According to TSD 2009/48/EC, manufacturers shall ensure that their toys bear a type, batch, serial or model number or other element allowing their identification, or, where the size or nature of the toy does not allow it, that the required information is provided on the packaging or in a document accompanying the toy.

Note: The sample(s) was not evaluated to the Normal Use testing requirements specified in ASTM F963-17, Section 8.5. It is the responsibility of the manufacturer, vendor or distributor to conduct tests that will simulate normal use conditions. These tests shall ensure that hazards are not generated through normal wear and deterioration of the sample(s). These tests shall also simulate the normal play mode of the toy and to simulate the expected mode of use of the particular toy. The tests shall be conducted in an expected use environment. These normal use tests shall simulate the intended use of the toy based on its estimated lifetime.

Note: At the request of client, test(s) was conducted on the certain component(s) of the submitted samples(s) / submitted component(s).

Note: The composite test sample(s) of the submitted samples was prepared in the manner requested by the client, when subject to the test performed.



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ATTACHMENT:

Style No(s):

A961,A962,A963,A964,A965,A966,A967, A968,A969,A970, B961,B962,B963,B964,B965,B966,B967, B968,B969, B970, B961-1, B961-2, B961-3, B961-4, B961-5, B962-1, B962-2, B962-3, B962-4, B962-5, B963-1, B963-2, B963-3, B963-4, B963-5,B964-1, B964-2, B964-3, B964-4, B964-5,B965-1, B965-2, B965-3, B965-4, B965-5,B966-1, B966-2, B966-3, B966-4, B966-5,C961,C962,C963,C964,C965,C966,C967, C968,C969,C970, C961-1, C961-2, C961-3, C961-4, C961-5,C962-1, C962-2, C962-3, C962-4, C962-5,C963-1, C963-2, C963-3, C963-4, C963-5,C964-1, C964-2, C964-3, C964-4, C964-5,C965-1, C965-2, C965-3, C965-4, C965-5,C966-1, C966-2, C966-3, C966-4, C966-5,D961,D962,D963,D964,D965,D966,D967,D968,D969,D970,S1,S2,S3,S4,S5,S6,S7,S8,S9,S10,S11, S1-1, S1-2, S1-3, S1-4, S1-5, S1-6, S1-7, S1-8, S1-9, S1-10,S2-1, S2-2, S2-3, S2-4, S2-5, S2-6, S2-7, S2-8, S2-9, S2-10,T1, T2,T3,T4,T5,T6,T7,T8,T9,T10,K1,K2,K3,K4,K5,K6,K7,K8,K9,K10,H1,H2,H3,H4,H5,H6,H7,H8,H9,H10, M01,M02,M03,M04,M05,M06,M07,M08,M09,M10, M11 , M12, M13, M14, M15, M16, M17, M18, M19, M20, M21, M22, M23, M24, M25, M26, M27, M28, M29, M30, M31, M32, M33, M34, M35, M36, M37, M38, M39, M40, M41, M42, M43, M44, M45, M46, M47, M48, M49, M50, M51, M52, M53, M54, M55, M56, M57, M58, M59, M60, M61, M62, M63, M64, M65, M66, M67, M68, M69, M70,D1-PB ,W01,V01,V01-S,D1-W,S1-7,M06-1,M06-2,M05-1,M05-2, PT2003, PT2004, PT2005, PT2006, PT2007, PT2008, PT5006, PT5007, PT5008, PT5019, PT5021

Tested Component(s) Description List:

Test Item(s)	Item / Component Description(s)	Location(s)	Style(s)
I001	Brown coating	Deer	-
I002	White coating	Dinosaur	-
I003	Dark brown coating	Dinosaur	-
I004	Green coating	Dinosaur	-
I005	Red coating	Chicken	-
I006	Orange coating	Starfish	-
I007	Light green PVC	Dinosaur	-
I008	Dark green PVC	Dinosaur	-
I009	Green PVC	Dinosaur	-
I010	Brown coating	Deer	-
I011	White coating	Dinosaur	-
I012	Dark brown coating	Dinosaur	-
I013	Green coating	Dinosaur	-
I014	Red coating	Chicken	-
I015	Orange coating	Starfish	-
I016	Light green PVC	Dinosaur	-
I017	Dark green PVC	Dinosaur	-
I018	Green PVC	Dinosaur	-



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RESULTS:

APPROPRIATE AGE GRADE DETERMINATION

<p>The Appropriate Age Grade is determined with reference to the EN71 : Part 1 : 2014+A1:2018, CEN ISO/TR 8124-8:2016 Safety of toys - Part 8: Age determination guidelines prepared by Technical Committee CEN/TC 52 and Age Grade Determination Guidelines of the Consumer Product Safety Commission (CPSC).</p>	
Note :	The most stringent age grade from the Labeled Age Grade and the Appropriate Age Grade will be used for testing.
Note :	If the client does not specify an age grade for testing or request Bureau Veritas Consumer Products Services, Inc. to determine an appropriate age grade, the labeled age grade will be used for testing.

EXPLANATION OF THE ABBREVIATIONS FOR PART 1, 2 & 6

Symbol	Explanation				
NM	The sample(s) DOES NOT MEET the requirement of this Subclause				
M	The sample(s) MEET the requirement of this Subclause				
N/A	Not Applicable				
NR	Not Requested				
NE	Not Evaluated				
NP	None Present				
NT	Not Tested				
P	Present				
R	Refer to Comment Section of this report				
Symbol	Language Present	Symbol	Language Present	Symbol	Language Present
B	Belgian language	G	German language	PR	Portuguese language
D	Danish language	GR	Greek language	S	Spanish language
E	English language	H	Dutch language	SD	Swedish language
F	Finnish language	I	Italian language	SZ	Swiss language
FR	French language	N	Norwegian language		

RESULTS:

**MECHANICAL & PHYSICAL PROPERTIES
(EN 71: PART 1 – 2014+A1 – 2018)**

Subclause	Requirement	Result
4.1	Material cleanliness	M
4.2	Assembly	NA
4.3	Flexible plastic sheeting	NA
4.4	Toy Bags	NA
4.5	Glass	NA
4.6	Expanding materials	NA
4.7 & 7.6	Edges	M
4.8 & 7.6	Points and metallic wires	M
4.8e	Splinters	M
4.9	Protruding parts	NA
4.10.1	Folding and sliding mechanisms	NA
4.10.2	Driving mechanisms	NA
4.10.3	Hinges	NA
4.10.4	Springs	NA
4.11	Mouth actuated toys and other toys intended to be put in the mouth	NA
4.12 & 7.3	Balloons	NA
4.13 & 7.9	Cord of toy kites and other flying toys	NA
4.14.1	Toys which a child can enter	NA
4.14.2 & 7.8	Masks and helmets	NA
4.15.1	Toys propelled by child	
4.15.1.2 & 7.10.1 & 7.10.2 & 7.10.3 & 7.10.4 & 7.16	Toys propelled by child – Instructions for use	NA
4.15.1.3	Toys propelled by child – Strength	NA
4.15.1.4	Toys propelled by child – Stability	NA
4.15.1.5	Toys propelled by child – Braking	NA
4.15.1.6	Toys propelled by child - Transmission	NA
4.15.1.7	Toys propelled by child – insertion mark	NA
4.15.1.8	Electrically-driven ride-on toys	NA
4.15.2	Toy bicycles	
4.15.2.2 & 7.15	Toy bicycles – Warnings and instructions for use	NA
4.15.2.3	Toy bicycles – Braking	NA
4.15.3 & 7.16 & 7.19	Rocking horses and similar toys	NA
4.15.4 & 7.16	Toys not propelled by child	NA
4.15.5 & 7.18	Toy scooters	NA



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RESULTS:

Subclause	Requirement	Result
4.16	Heavy immobile toys	NA
4.17.2	All projectiles	NA
4.17.3 & 7.7	Projectile toys with stored energy	NA
4.17.4 & 7.26	Certain projectiles toys without stored energy	NA
4.18 & 7.4	Aquatic toys and inflatable toys	NA
4.19 & 7.13 & 7.14	Percussion caps	NA
4.20.2.1- 4.20.2.4, 4.20.2.6-4.20.2.12 & 7.14	Acoustics	NA
*4.20.2.5	Acoustics– Toys using headphones or earphones	NA
4.21	Toys containing a non-electrical heat source	NA
4.22 & 7.2	Small balls	NA
4.23	Magnet	
4.23.2 a, b & c	Toy other than magnetic / electrical experimental sets intended for children over 8 years	NA
4.23.3 & 7.20	Magnetic / electrical experimental sets intended for children over 8 years	NA
4.24	Yo-yo ball	NA
4.25	Toys attached to food	NA
4.26	Toy Disguise Costumes	NA
4.27.1	Flying toys – General	NA
4.27.2 & 7.25.1	Rotors and propellers on flying toys	NA
4.27.3 & 7.25.2	Rotors and propellers on remote controlled flying toys	NA
FOR TOYS INTENDED FOR CHILDREN UNDER 36 MONTHS		
5.1	General	NA
5.1a	Small parts – as received	NA
5.1b	Small parts, sharp points, sharp edges – after tests	NA
5.1c	Cross section <2mm metal points & wires	NA
5.1e	Toys contain glue	NA
5.1f	Casing of toys	NA
5.2	Fillings, coverings and seams	NA
5.3	Adhesion of plastic sheeting	NA
5.4.2	Cords and chains in toys intended for children under 18 months	NA



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RESULTS:

Subclause	Requirement	Result
5.4.3 & 7.22	Cords and chains in toys intended for children of 18 months or over but under 36 months	NA
5.4.4	Fixed loops, tangled loops and nooses	NA
5.4.5	Cords and chains on pull along toys	NA
5.4.6 & 7.21	Electrical cables	NA
5.4.7	Cross-sectional dimension of certain cords	NA
5.4.8	Self-retracting cords	NA
5.4.9 & 7.11 & 7.23	Toys attached to or intended to be strung across a cradle, cot or perambulator	NA
5.5 & 7.12	Liquid filled toys	NA
5.6	Electrically driven toys	NA
5.7	Glass and porcelain	NA
5.8	Shape and size	NA
5.9 & 7.17	Monofilament fibres	NA
5.10	Small balls	NA
5.11	Play figures	NA
5.12	Hemispheric shaped toys	NA
5.13	Suction cups	NA
5.14	Straps intended to be worn fully or partially around the neck	NA
5.15 & 7.24	Sledges with cords for pulling	NA
6	Packaging	M
WARNINGS, INSTRUCTIONS FOR USE		
7.1	General	M
7.2	Toys not intended for children under 36 months	M
7.5	Functional toys	NA

2009/48/EC General Labeling Requirement

Requirement	Result
CE Mark	M
Manufacturer/ Importer name and address	M
Product Identification	M

M = Meet NM = Not Meet N/A = Not Applicable R = Refer to Comment Section NT=Not Test

RESULTS:

REQUIREMENTS & TEST METHODS CROSS REFERENCE TABLE FOR PART 1

Sub-clause	Test Method	Sub-clause	Test Method	Sub-clause	Test Method	Sub-clause	Test Method
4.3	8.25.1	4.15.1.5	8.26.1	4.22	8.3, 8.4.2.1, 8.5, 8.6, 8.7, 8.8, 8.32	5.4.5	8.40
4.5	8.5, 8.7, 8.11, 8.12	4.15.1.8	8.29	4.23	8.2, 8.3, 8.4.2.1, 8.4.2.2, 8.5, 8.6, 8.7, 8.8, 8.34, 8.35	5.4.6	8.40
4.6	8.2, 8.3, 8.4.2.1, 8.5, 8.7, 8.8, 8.14	4.15.2.4	8.26.2	4.24	8.37	5.4.7	8.20
4.7	8.11	4.15.3	8.21, 8.23.1	4.25	8.2, 8.3, 8.4.2.1, 8.5, 8.7, 8.8, 8.32.1	5.7.8	8.39
4.8	8.12, 8.13	4.15.4	8.21, 8.23.1	4.26	8.38	5.5	8.15
4.9	8.4.2.3, 8.11, 8.12	4.15.5	8.11, 8.12, 8.21, 8.22, 8.26.3, 8.27	4.27.1	8.43	5.6	8.29
4.10.1	8.18.2, 8.18.3	4.16	8.23.2	4.27.2	8.4.2.6	5.8	8.16
4.10.2	8.5, 8.6, 8.7, 8.11, 8.12	4.17.1	8.3, 8.4.2.1, 8.7, 8.8, 8.42	4.27.3	8.4.2.6	5.10	8.3, 8.4.2.1, 8.5, 8.6, 8.7, 8.8, 8.9, 8.32
4.11	8.2, 8.3, 8.4.2.1, 8.9, 8.17	4.17.2	8.3, 8.4.2.4, 8.7, 8.8, 8.32.1, 8.43, 8.44	5.1	8.2, 8.3, 8.4.2.1, 8.5, 8.7, 8.8, 8.9, 8.11, 8.12	5.11	8.33
4.13	8.19	4.17.3	8.3, 8.4.2.3, 8.4.2.5, 8.11, 8.12, 8.24, 8.42	5.3	8.4.2.1, 8.25	5.12	8.3, 8.4.2.1, 8.5, 8.6, 8.7, 8.8, 8.9,
4.14.1	8.31.1, 8.31.2	4.17.4	8.3, 8.4.2.3, 8.4.2.5, 8.11, 8.12, 8.24, 8.42	5.4.1	8.40	5.13	8.3, 8.4.2.1, 8.5, 8.7, 8.8, 8.32
4.14.2	8.3, 8.4.2.1, 8.5, 8.7, 8.8, 8.11, 8.12	4.18	8.2, 8.3, 8.4.2.1	5.4.2	8.38, 8.40, 8.41	5.14	8.38
4.15.1.3	8.11, 8.12, 8.21, 8.22	4.20	8.28	5.4.3	8.38, 8.40, 8.41	6	8.3, 8.4.2.1, 8.25.1, 8.32.1
4.15.1.4	8.23.1	4.21	8.30	5.4.4	8.36, 8.38		



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RESULTS:

FLAMMABILITY (EN 71 PART 2: 2011+A1: 2014)

Subclause	Requirement	Result
4.1	Cellulose nitrate	NP
4.1	Surface flash on a piled surface	NA
*4.1	Flammable gases	NA
*4.1	Extremely flammable liquids, highly flammable liquids, flammable liquids and flammable gels	NA
4.2	Toys to be worn on the head	NA
4.3	Toy disguise costumes and toys intended to be worn by child in play	NA
4.3	warning on product and packaging (10 - 30 mm/s)	NA
4.4	Toys intended to be entered by a child	NA
4.4	warning on product and packaging (10 – 30 mm/s)	NA
4.5	Soft-filled toys	NA

REQUIREMENTS & TEST METHODS CROSS REFERENCE TABLE FOR PART 2

Sub-clause	Test Method	Sub-clause	Test Method	Sub-clause	Test Method	Sub-clause	Test Method
4.2.2	5.2	4.2.4	5.3	4.3	5.4	4.5	5.5
4.2.3	5.3	4.2.5	5.4	4.4	5.4	-	-

* Note: Subclause indicated with * are not accredited.



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RESULTS:

Migration of Certain Elements – European Standard EN 71 Part 3: 2013+A3:2018

Test Method: European Standard EN 71 Part 3: 2013+A3:2018, Annex E.

Class: Category III - Scraped off toy material

Analyte	Requirement (mg/kg)	Result (mg/kg)				
		Test Item(s)				
	Category III	I001	I002	I003	I004	I005
Aluminium (Al)	70000	9	13	7	8	6
Arsenic (As)	47	LT 2	LT 2	LT 2	LT 2	LT 2
Boron (B)	15000	LT 2	LT 2	LT 2	3	LT 2
Barium (Ba)	18750	LT 2	LT 2	LT 2	3	LT 2
Cadmium (Cd)	17	LT 2	LT 2	LT 2	LT 2	LT 2
Cobalt (Co)	130	LT 2	LT 2	LT 2	LT 2	LT 2
Chromium III (Cr III)	460	LT 0.15	LT 0.15	LT 0.15	LT 0.15	LT 0.15
Chromium VI (Cr VI)	0.2					
Copper (Cu)	7700	LT 2	2	LT 2	2	LT 2
Mercury (Hg)	94	LT 2	LT 2	LT 2	LT 2	LT 2
Manganese (Mn)	15000	LT 2	LT 2	LT 2	LT 2	LT 2
Nickel (Ni)	930	LT 2	LT 2	LT 2	LT 2	LT 2
Lead (Pb)	23	LT 2	LT 2	LT 2	LT 2	LT 2
Antimony (Sb)	560	LT 2	LT 2	LT 2	LT 2	LT 2
Selenium (Se)	460	LT 2	LT 2	LT 2	LT 2	LT 2
Tin (Sn)	180000	LT 2	LT 2	LT 2	LT 2	LT 2
Organic tin	12	LT 2	LT 2	LT 2	LT 2	LT 2
Strontium (Sr)	56000	5	2	5	3	45
Zinc (Zn)	46000	11	8	7	8	12
Mass of trace amount (gram)		0.0120	0.0216	0.0269	0.0235	0.0198
Conclusion		PASS	PASS	PASS	PASS	PASS



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RESULTS:

Analyte	Requirement (mg/kg)	Result (mg/kg)				
		Test Item(s)				
	Category III	I006	I007	I008	I009	-
Aluminium (Al)	70000	14	4	LT 2	LT 2	-
Arsenic (As)	47	LT 2	LT 2	LT 2	LT 2	-
Boron (B)	15000	LT 2	LT 2	LT 2	LT 2	-
Barium (Ba)	18750	LT 2	LT 2	LT 2	LT 2	-
Cadmium (Cd)	17	LT 2	LT 2	LT 2	LT 2	-
Cobalt (Co)	130	LT 2	LT 2	LT 2	LT 2	-
Chromium III (Cr III)	460	LT 0.15	LT 0.15	LT 0.15	LT 0.15	-
Chromium VI (Cr VI)	0.2					
Copper (Cu)	7700	LT 2	2	LT 2	LT 2	-
Mercury (Hg)	94	LT 2	LT 2	LT 2	LT 2	-
Manganese (Mn)	15000	LT 2	2	LT 2	LT 2	-
Nickel (Ni)	930	LT 2	LT 2	LT 2	LT 2	-
Lead (Pb)	23	LT 2	LT 2	LT 2	LT 2	-
Antimony (Sb)	560	LT 2	LT 2	LT 2	LT 2	-
Selenium (Se)	460	LT 2	LT 2	LT 2	LT 2	-
Tin (Sn)	180000	5	LT 2	LT 2	LT 2	-
Organic tin	12	LT 2	LT 2	LT 2	LT 2	-
Strontium (Sr)	56000	7	LT 2	LT 2	LT 2	-
Zinc (Zn)	46000	7	15	LT 2	LT 2	-
Mass of trace amount (gram)		0.0249	-	-	-	-
Conclusion		PASS	PASS	PASS	PASS	-

mg/kg = milligrams per kilogram (ppm=parts per million) LT = Less Than

* = Average of duplicate analysis

Organic tin = migration of total organic tin is expressed as tributyl tin cation content in mg/kg

= Verified results (see note)

Remark:

- Results of Cr III and Cr VI were reported as sum of soluble Chromium content unless specified.
- Result(s) of organic tin was (were) calculated while assuming the tin content wholly contributed from tributyltin cation unless specified.

Note:

If soluble chromium content or soluble tin content exceeded the screening limits of soluble chromium (VI) or organic tin content, the results were verified by below method

- Chromium VI: In house Ion-chromatography analysis.
- Organic tin: EN71 part 3:2013+A3:2018, Annex G by Gas Chromatography – Mass Spectroscopy analysis.



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RESULTS:

Total Cadmium Content – European Regulation (EC) No. 1907/2006 REACH Annex XVII, Item no. 23

Test Method : BS EN 1122: 2001, Method B or Acid digestion followed by Atomic Absorption Spectrophotometry or Inductively Coupled Plasma Spectrometry.

Maximum Allowable Limit :	Type I	Paints on Painted Article: 1000 mg/kg
	Type II	Plastics: 100 mg/kg
	Type III	Metals in Jewellery: 100 mg/kg
	Type IV	Wet Paints: 100 mg/kg

Test Item(s)	Type	Result	Unit	Conclusion
		Total Cadmium (Cd)		
I010+I011+I012	I	ND	mg/kg	PASS
I013+I014+I015	I	ND	mg/kg	PASS
I016+I017+I018	II	ND	mg/kg	PASS

Note / key:

ND = Not detected

mg/kg = milligram(s) per kilogram

Detection Limit (mg/kg) : 10



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RESULTS:

BBP/DBP/DEHP Contents in Toys and Childcare Articles – European Regulation (EC) No. 1907/2006 REACH Annex XVII, Item no. 51

Test Method : Sample was extracted with organic solvent and then analyzed by Gas Chromatograph Mass Spectrometer.

Test Parameter:	BBP	DBP	DEHP	SUM	-
Limit (%):	0.1 (Sum of three phthalates)				-
Test Item(s)	Result (%)				Conclusion
I010+I011+I012	ND	ND	ND	ND	PASS
I013+I014+I015	ND	ND	ND	ND	PASS
I016+I017+I018	ND	ND	ND	ND	PASS

Note / key:

BBP = Butyl benzyl phthalate

DBP = Dibutyl phthalate

DEHP = Di(2-ethylhexyl) phthalate

ND = Not detected

% = percent

10000 mg/kg = 1 %

mg/kg = milligram(s) per kilogram

Detection Limit (%) : Each 0.005

DNOP/DINP/DIDP Contents in Toys and Childcare Articles which can be placed in the Mouth by the Children – European Regulation (EC) No. 1907/2006 REACH Annex XVII, Item no. 52

Test Method : Sample was extracted with organic solvent and then analyzed by Gas Chromatograph Mass Spectrometer.

Test Parameter:	DIDP	DINP	DNOP	SUM	-
Limit (%):	0.1 (Sum of three phthalates)				-
Test Item(s)	Result (%)				Conclusion
I010+I011+I012	ND	ND	ND	ND	PASS
I013+I014+I015	ND	ND	ND	ND	PASS
I016+I017+I018	ND	ND	ND	ND	PASS

Note / key:

DNOP = Di-n-octyl phthalate

DINP = Di-iso-nonyl phthalate

DIDP = Di-iso-decyl phthalate

ND = Not detected

% = percent

10000 mg/kg = 1 %

mg/kg = milligram(s) per kilogram

Detection Limit (%) : Each 0.005



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RESULTS:

APPROPRIATE AGE GRADE DETERMINATION

The Appropriate Age Grade is determined with reference to the Age Determination Guidelines of the Consumer Product Safety Commission (CPSC); and the ASTM F963-17, "Standard Consumer Safety Specification on Toy Safety". Annex A1	
Note :	The most stringent age grade from the Labeled Age Grade and the Appropriate Age Grade will be used for testing.
Note :	If the client does not specify an age grade for testing or request Bureau Veritas Consumer Products Services, Inc. to determine an appropriate age grade, the labeled age grade will be used for testing.

USE AND ABUSE TESTS

The samples were undergo the tests in accordance with section 8.6 through 8.16, whichever is applicable		
Test	Test Parameters	Standard Reference
Impact Test	4 x 3 ft	1500.53(b)
Torque Test	4 in-lbs	1500.53(e)
Tension Test	15 lbs	1500.53(f)
Compression Test	30 lbs	1500.53(g)



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RESULTS:

PHYSICAL AND MECHANICAL HAZARDS (ASTM F963-17)

Section	Requirement	Result
4.1	Material Quality	M
4.3.7	Stuffing Materials	N/A
4.5	Sound-Producing Toys	N/A
4.6	Small Objects	N/A
4.7	Accessible Edges	M
4.8	Projections	N/A
4.9	Accessible Points	M
4.10	Wires and Rods	N/A
4.11	Nails and Fasteners	N/A
4.12	Plastic Film	M
4.13	Folding Mechanisms and Hinges	N/A
4.14	Cords, Straps and Elastics	N/A
4.15	Stability and Over-Load Requirements	N/A
4.16	Confined Spaces	N/A
4.17	Wheels, Tires, and Axles	N/A
4.18	Holes, Clearances and Accessibility of Mechanisms	N/A
4.19	Simulated Protective Devices	N/A
4.20	Pacifiers	N/A
4.21	Projectile Toys	N/A
4.22	Teethers and Teething Toys	N/A
4.23	Rattles	N/A
4.24	Squeeze Toys	N/A
4.25	Battery-Operated Toys (exclude Section 4.25.10 Battery-powered ride-on toys & Section 4.25.11 Toys that Contain Secondary Cells or Secondary Batteries)	N/A
4.26	Toys Intended to be Attached to a Crib or Playpen	N/A
4.27	Stuffed and Beanbag-Type Toys	N/A
4.30	Toy Gun Marking	N/A
4.32	Certain Toys with Nearly Spherical Ends	N/A
4.34	Small Balls	N/A
4.35	Pompoms	N/A
4.36	Hemispheric-Shaped Objects	N/A
4.37	Yo Yo Elastic Tether Toys	N/A
4.38	Magnets	N/A
4.39	Jaw Entrapment in Handles and Steering Wheels	N/A
4.40	Expanding Materials	N/A

M = Meet NM = Not Meet N/A = Not Applicable R = Refer to Comment Section



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RESULTS:

LABELING AND INSTRUCTIONAL REQUIREMENT (ASTM F963-17)

Section	Requirement	Result
5.4 & 5.3	Aquatic Toys	N/A
5.5 & 5.3	Crib and Playpen Toys	N/A
5.6 & 5.3	Mobiles	N/A
5.7 & 5.3	Stroller and Carriage Toys	N/A
5.8 & 5.3	Toys Intended to be Assembled by an Adult	N/A
5.9 & 5.3	Simulated Protective Devices	N/A
5.10 & 5.3	Toys with Functional Sharp Edges or Sharp Points	N/A
5.11	Small Objects, Small Balls, Marbles and Balloons (16 CFR 1500.19)	M
5.12	Toy Caps (16CFR1500.86)	N/A
5.13	Art Materials (16 CFR 1500.14(b)(8))	N/A
5.15	Battery-Operated Toys (exclude 5.15.1 and 5.15.2)	N/A
5.15.1 & 5.3	Battery-Powered Ride-On Toys	N/A
5.15.2 & 5.3	Button or Coin Cell Batteries	N/A
5.16	Promotional Materials	M
5.17 & 5.3	Magnets	N/A
6.1	Definition and Description	M
6.2	Crib and Playpen Toys	N/A
6.3	Mobiles	N/A
6.4 & 5.3	Toys Intended to be Assembled by an Adult	N/A
6.5	Battery-Operated Toys	N/A
6.6	Battery-Powered Ride-On Toys	N/A
6.7	Toys in Contact with Food	N/A
7.1	Producer's Name and Address	M
7.2	Battery-Powered Ride-on Toys	N/A

M = Meet NM = Not Meet N/A = Not Applicable R = Refer to Comment Section

FLAMMABILITY (16 CFR SECTION 1500.3(c)6)(vi))

Requirement	Test Method Reference	Findings
Burn rate no greater than 0.1 of an inch per second	16 CFR 1500.44	Ignited but Self-Extinguished.



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RESULTS:

Total Lead Content in Surface Coating – ASTM International Standard ASTM F963-17, Section 4.3.5.1(1)

Test Method : ASTM International Standard ASTM F963-17, Section 8.3.1 and Annex A7.

Maximum Allowable Limit :	90 mg/kg
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Test Item(s)	Result	Unit	Conclusion
	Total Lead (Pb)		
I001	ND	mg/kg	PASS
I002	ND	mg/kg	PASS
I003	ND	mg/kg	PASS
I004	ND	mg/kg	PASS
I005	ND	mg/kg	PASS
I006	ND	mg/kg	PASS

Note / key:

ND = Not detected

mg/kg = milligram(s) per kilogram

Detection Limit (mg/kg) : 10

Total Lead Content in Substrate – ASTM International Standard ASTM F963-17, Section 4.3.5.2(2)(a)

Test Method : ASTM International Standard ASTM F963-17, Section 8.3.1 and Annex A7.

Maximum Allowable Limit :	100 mg/kg
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Test Item(s)	Result	Unit	Conclusion
	Total Lead (Pb)		
I007	ND	mg/kg	PASS
I008	ND	mg/kg	PASS
I009	ND	mg/kg	PASS

Note / key:

ND = Not detected

mg/kg = milligram(s) per kilogram

Detection Limit (mg/kg) : 10



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RESULTS:

Soluble Heavy Metals Content in Surface Coating –ASTM F963-17, Section 4.3.5.1(2)

Test Method : ASTM International Standard ASTM F963-17, Section 8.3.2 to 8.3.4

Analyte	As	Ba	Cd	Cr	Hg	Pb	Sb	Se
Max. Limit (mg/kg)	25	1000	75	60	60	90	60	500
Analytical Correction (%)	60	30	30	30	50	30	60	60

Analyte	As	Ba	Cd	Cr	Hg	Pb	Sb	Se	Mass of Trace Amount	Conclusion
Test Item(s)	Result (mg/kg)								(g)	
I001	ND	ND	ND	ND	ND	ND	ND	ND	0.0120	PASS
I002	ND	ND	ND	ND	ND	ND	ND	ND	0.0216	PASS
I003	ND	ND	ND	ND	ND	ND	ND	ND	0.0269	PASS
I004	ND	ND	ND	ND	ND	ND	ND	ND	0.0235	PASS
I005	ND	ND	ND	ND	ND	ND	ND	ND	0.0198	PASS
I006	ND	ND	ND	ND	ND	ND	ND	ND	0.0249	PASS

Note / key:

As = Arsenic Ba = Barium Cd = Cadmium Cr = Chromium
Hg = Mercury Pb = Lead Sb = Antimony Se = Selenium
ND = Not detected g = gram(s) % = percent
mg/kg = milligram(s) per kilogram
Detection Limit (mg/kg) : As : 2.5; Ba : 100; Cd : 7.5; Each (Cr, Hg, & Sb) : 6.0; Pb : 9.0; Se : 50



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RESULTS:

Soluble Heavy Metals Content in Substrate –ASTM F963-17, Section 4.3.5.2(2)(b)

Test Method : ASTM International Standard ASTM F963-17, Section 8.3.5 (Excluding 8.3.5.5(3))

Analyte	As	Ba	Cd	Cr	Hg	Pb	Sb	Se
Max. Limit Type I (mg/kg)	25	1000	75	60	60	90	60	500
Max. Limit Type II (mg/kg)	25	250	50	25	25	90	60	500
Analytical Correction (%)	60	30	30	30	50	30	60	60

Analyte	As	Ba	Cd	Cr	Hg	Pb	Sb	Se	Mass of Trace Amount	Conclusion
Test Item(s)	Result (mg/kg)								(g)	
Type I: Substrate other than modeling clay										
I007	ND	ND	ND	ND	ND	ND	ND	ND	-	PASS
I008	ND	ND	ND	ND	ND	ND	ND	ND	-	PASS
I009	ND	ND	ND	ND	ND	ND	ND	ND	-	PASS

Note / key:

As = Arsenic Ba = Barium Cd = Cadmium Cr = Chromium
 Hg = Mercury Pb = Lead Sb = Antimony Se = Selenium
 ND = Not detected g = gram(s) % = percent

mg/kg = milligram(s) per kilogram (ppm=parts per million)

Detection Limit (mg/kg) :

For Type I – As : 2.5; Ba : 100; Cd : 7.5; Each (Cr, Hg, & Sb) : 6.0; Pb : 9.0; Se : 50

For Type II – Each (As, Cr & Hg) : 2.5; Ba : 25; Cd : 5.0; Sb : 6.0; Pb : 9.0; Se : 50

Remark:

- Textiles (natural or synthetic) are exempted for lead content requirement according to clarification of Toy Industry Association for ASTM F963-17. The lead content analysis result of corresponding material herein is for client's reference only.



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RESULTS:

Total Lead Content in Surface Coating – Consumer Product Safety Improvement Act (CPSIA) of 2008 Sec. 101(f)

Test Method : U.S. CPSC-CH-E1003-09.1

Maximum Allowable Limit :	90 mg/kg
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Test Item(s)	Result	Unit	Conclusion
	Total Lead (Pb)		
I001	ND	mg/kg	PASS
I002	ND	mg/kg	PASS
I003	ND	mg/kg	PASS
I004	ND	mg/kg	PASS
I005	ND	mg/kg	PASS
I006	ND	mg/kg	PASS

Note / key:

ND = Not detected

mg/kg = milligram(s) per kilogram

Detection Limit (mg/kg) : 10

Total Lead Content in Substrate Materials – Consumer Product Safety Improvement Act (CPSIA) of 2008 Sec. 101(a)(2)

Test Method : U.S. CPSC-CH-E1002-08.3 or U.S. CPSC-CH-E1001-08.3

Maximum Allowable Limit :	100 mg/kg
---------------------------	-----------

Test Item(s)	Result	Unit	Conclusion
	Total Lead (Pb)		
I007	ND	mg/kg	PASS
I008	ND	mg/kg	PASS
I009	ND	mg/kg	PASS

Note / key:

ND = Not detected

mg/kg = milligram(s) per kilogram

Detection Limit (mg/kg) : 10



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RESULTS:

PHthalates Content in Children's Toys and Child Care Articles (Consumer Product Safety Improvement Act (CPSIA) of 2008, Section 108(a) and 108(c), 16 CFR 1307)

Test Method : With reference to U. S. CPSC-CH-C1001-09.4 (January 17, 2018)

Test Parameter:	BBP	DBP	DEHP	DINP	DIBP	DPENP	DHEXP	DCHP	-
Limit (%):	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	-
Test Item(s)	Result (%)								Conclusion
I010+I011+I012	ND	ND	ND	ND	ND	ND	ND	ND	PASS
I013+I014+I015	ND	ND	ND	ND	ND	ND	ND	ND	PASS
I016+I017+I018	ND	ND	ND	ND	ND	ND	ND	ND	PASS

Note / key:

DEHP = Di(2-ethylhexyl) phthalate

DHEXP(DnHP) = Di-n-hexyl phthalate

DPENP(DnPP) = Di-n-pentyl phthalate

ND = Not detected

mg/kg = milligram(s) per kilogram

Detection Limit (%) : Each 0.005

DBP = Dibutyl phthalate

DIBP = Di-iso-butyl phthalate

DCHP = Dicyclohexyl phthalate

% = percent

BBP = Butyl benzyl phthalate

DINP = Di-iso-nonyl phthalate

10000 mg/kg = 1 %



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RESULTS:

Total Lead Content in Children Products (California Proposition 65 settlements of Alameda Superior court RG 07356892)

Test Method : EPA 3050B (Mod) / EPA 3051A (Mod)

Maximum Allowable Limit:	Type I	Paint and surface coatings: 90 mg/kg
	Type II	Substrate materials: 100 mg/kg

Test Item(s)	Type	Result	Unit	Conclusion
		Total Lead (Pb)		
I001	I	ND	mg/kg	PASS
I002	I	ND	mg/kg	PASS
I003	I	ND	mg/kg	PASS
I004	I	ND	mg/kg	PASS
I005	I	ND	mg/kg	PASS
I006	I	ND	mg/kg	PASS
I007	II	ND	mg/kg	PASS
I008	II	ND	mg/kg	PASS
I009	II	ND	mg/kg	PASS

Note / key:

ND = Not detected

mg/kg = milligram(s) per kilogram

Detection Limit (mg/kg) : 10



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RESULTS:

BBP/DBP/DEHP/DnHP/DIDP Phthalates Content Requirements in Toys, Child Care Articles and Watches – California Proposition 65 settlements of County of Sacramento case number 07AS04683, and the Alameda Superior Court case numbers BG07350969, RG08367601, RG07351032 and RG08378050

Test Method : With reference to U. S. CPSC-CH-C1001-09.4 (January 17, 2018)

Test Parameter:	BBP	DBP	DEHP	DnHP	DIDP	-
Limit (%):	0.1	0.1	0.1	0.1	0.1	-
Test Item(s)	Result (%)					Conclusion
I010+I011+I012	ND	ND	ND	ND	ND	PASS
I013+I014+I015	ND	ND	ND	ND	ND	PASS
I016+I017+I018	ND	ND	ND	ND	ND	PASS

Note / key:

BBP = Butyl benzyl phthalate

DBP = Dibutyl phthalate

DEHP = Di(2-ethylhexyl) phthalate

DnHP = Di-n-hexyl phthalate

DIDP = Di-iso-decyl phthalate

ND = Not detected

% = percent

10000 mg/kg = 1 %

mg/kg = milligram(s) per kilogram

Detection Limit (%) : Each 0.005



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RESULTS:

Phthalates Content – Client's Specification

Test Method : Sample was extracted with organic solvent and then analyzed by Gas Chromatograph Mass Spectrometer.

Test Parameter:	DnHP	DiBP	-
Limit (%):	0.1	0.1	-
Test Item(s)	Result (%)		Conclusion
I010+I011+I012	ND	ND	PASS
I013+I014+I015	ND	ND	PASS
I016+I017+I018	ND	ND	PASS

Note / key:

DnHP = Di-n-hexyl phthalate

DiBP = Diisobutyl phthalate

ND = Not detected

% = percent

10000 mg/kg = 1 %

mg/kg = milligram(s) per kilogram

Detection Limit (%) : Each 0.005



**BUREAU
VERITAS**

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RESULTS:



END OF REPORT