SILVERLIT TOYS MANUFACTORY LIMITED

Technical Report: **(5219)350-0506** January 09, 2020
Date Received: January 09, 2020 Page 1 of 14

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Sample Description:	ROBO KOMBAT - BALLOON PUNCHER 1.) CHANNEL A/B 2.) CHANNEL C/D		
Vendor:	N/A	Sample Size:	12
Manufacturer:	N/A	Style No(s):	88038
Buyer:	N/A	SKN/SKU No.:	N/A
Labeled Age Grade:	5+	PO No.:	N/A
Appropriate Age Grade:	OVER 6 YEARS OF AGE	Ref #:	N/A
Client Specified Age Grade:	5+	Country of Origin:	CHINA
Tested Age Grade:	OVER 5 YEARS OF AGE	Assortment No.:	N/A
UPC Code:	4891813880387		
Test Starting Date:	JANUARY 09, 2020		
Test Finished Date:	JANUARY 09, 2020		

EXECUTIVE SUMMARY:

The sample(s) MEET 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.
- The flammability requirements of the European Standard "Safety of Toys”, EN 71: Part 2: 2011+ A1: 2014.
- The migration of certain elements in Category III - Scraped off toy material requirements of the European Standard, “Safety of Toys”, EN 71 Part 3: 2013+A3:2018.

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EXECUTIVE SUMMARY:

Note: At the request of the client, the sample(s) was evaluated for use by children 5+.

Note: The received sample(s) contained accessible component(s) of less than 10 milligrams by weight on one single sample, therefore such component(s) was not subject to migration of certain elements of European Standard, "Safety of Toys", EN 71 Part 3: 2013 + A3:2018, as specified in Clause 7.1 - Selection of test portions.

BUREAU VERITAS HONG KONG LIMITED

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ML/AL/by

RESULTS:

APPROPRIATE AGE GRADE DETERMINATION

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).	
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
NT	Not Tested
NP	None Present
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	M
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	M
4.12 & 7.3	Balloons	M
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
4.16	Heavy immobile toys	NA
4.17.2	All projectiles	NA
4.17.3 & 7.7	Projectile toys with stored energy	NA

RESULTS:

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

Subclause	Requirement	Result
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
*4.20.2.1-4.20.2.8, 4.20.2.10, 4.20.2.12	Acoustics	M
4.20.2.9, 4.20.2.11 & 7.14	Acoustics – percussion toys & cap-firing toys	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
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

RESULTS:

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

Subclause	Requirement	Result
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

* Note: Subclause 4.20.2.5 Toys using headphones or earphone & 4.20.2.12 Voice Toys not accredited

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.

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

Sample Identity	Color	Location	Style
A.	white/ deep yellow coating	pattern of robot	1
B.	yellow/ light green coating	pattern of robot	2
C.	orange/ light purple coating	pattern of robot	2
D.	red soft plastic	balloon	1,2
E.	orange soft plastic	balloon	1,2
F.	yellow soft plastic	balloon	1,2
G.	green soft plastic	balloon	1,2
H.	blue soft plastic	balloon	1,2
I.	pink soft plastic	balloon	1,2
J.	translucent soft plastic	rubber band	1,2
K.	dull deep silvery plastic	goggle, balloon mount support	1,2
L.	black plastic	remote	1,2
M.	grey plastic	button of remote	1,2
N.	black plastic	body of robot	1,2
O.	dull black plastic	arms of robot	1,2
P.	black soft plastic	tires of robot	1,2
Q.	metallic red plastic	robot	1
R.	orange plastic	robot	1
S.	deep silvery plastic	robot	1
T.	metallic blue plastic	robot	1
U.	yellow plastic	robot	1
V.	metallic green plastic	robot	2
W.	metallic purple plastic	robot	2
X.	clear red plastic	light of remote and robot	1,2
Y.	clear plastic	LED of remote	1,2
Z.	multicolor printed white paper sticker	paper sticker of goggle	1,2
AA.	clear/ grey printed white/ grey paper card	banner	1,2

RESULTS:

MIGRATION OF CERTAIN ELEMENTS (European Standard EN 71 Part 3: 2013+A3:2018)

Analyte	Requirement (mg/kg)	Result (mg/kg)					
		Sample ID					
	Category III	A.	B.	C.	D.	E.	F.
Aluminium (Al)	70000	9	4	LT 2	7	8	16
Arsenic (As)	47	LT 0.15	LT 0.15	LT 0.15	LT 0.15	0.296	0.241
Boron (B)	15000	LT 5	LT 5	LT 5	LT 5	LT 5	LT 5
Barium (Ba)	18750	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Cadmium (Cd)	17	LT 0.15	LT 0.15	LT 0.15	LT 0.15	LT 0.15	LT 0.15
Cobalt (Co)	130	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Chromium III (Cr III)	460	0.039	0.036	0.023	0.044	0.024	0.117
Chromium VI (Cr VI)	0.2						LT 0.002#
Copper (Cu)	7700	LT 2	3	LT 2	LT 2	LT 2	LT 2
Mercury (Hg)	94	LT 0.25	LT 0.25	LT 0.25	LT 0.25	LT 0.25	LT 0.25
Manganese (Mn)	15000	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Nickel (Ni)	930	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Lead (Pb)	23	LT 0.2	LT 0.2	LT 0.2	LT 0.2	0.776	LT 0.2
Antimony (Sb)	560	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Selenium (Se)	460	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Tin (Sn)	180000	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Organic tin	12	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Strontium (Sr)	56000	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Zinc (Zn)	46000	LT 5	9	LT 5	335	225	235
Mass of trace amount (gram)		0.0108	0.0106	0.0103			
Conclusion		Pass	Pass	Pass	Pass	Pass	Pass

RESULTS:

MIGRATION OF CERTAIN ELEMENTS (European Standard EN 71 Part 3: 2013+A3:2018)

Analyte	Requirement (mg/kg)	Result (mg/kg)					
		Sample ID					
	Category III	G.	H.	I.	J.	K.	L.
Aluminium (Al)	70000	16	16	11	3	LT 2	4
Arsenic (As)	47	LT 0.15	LT 0.15	LT 0.15	LT 0.15	LT 0.15	LT 0.15
Boron (B)	15000	LT 5	LT 5	LT 5	LT 5	LT 5	LT 5
Barium (Ba)	18750	8	LT 2	LT 2	LT 2	LT 2	LT 2
Cadmium (Cd)	17	LT 0.15	LT 0.15	LT 0.15	LT 0.15	LT 0.15	LT 0.15
Cobalt (Co)	130	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Chromium III (Cr III)	460	0.48	0.05	0.072	0.055	LT 0.02	LT 0.02
Chromium VI (Cr VI)	0.2	LT 0.002#	LT 0.002#	LT 0.002#	LT 0.002#		
Copper (Cu)	7700	LT 2	LT 2	LT 2	LT 2	27	LT 2
Mercury (Hg)	94	LT 0.25	LT 0.25	LT 0.25	LT 0.25	LT 0.25	LT 0.25
Manganese (Mn)	15000	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Nickel (Ni)	930	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Lead (Pb)	23	12	LT 0.2	LT 0.2	LT 0.2	LT 0.2	LT 0.2
Antimony (Sb)	560	LT 2	LT 2	LT 2	LT 2	LT 2	3
Selenium (Se)	460	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Tin (Sn)	180000	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Organic tin	12	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Strontium (Sr)	56000	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Zinc (Zn)	46000	382	264	405	72	LT 5	LT 5
Mass of trace amount (gram)							
Conclusion		Pass	Pass	Pass	Pass	Pass	Pass

RESULTS:

MIGRATION OF CERTAIN ELEMENTS (European Standard EN 71 Part 3: 2013+A3:2018)

Analyte	Requirement (mg/kg)	Result (mg/kg)					
		Sample ID					
	Category III	M.	N.	O.	P.	Q.	R.
Aluminium (Al)	70000	LT 2	12	LT 2	LT 2	88	LT 2
Arsenic (As)	47	LT 0.15	LT 0.15	LT 0.15	LT 0.15	LT 0.15	LT 0.15
Boron (B)	15000	LT 5	LT 5	LT 5	LT 5	LT 5	LT 5
Barium (Ba)	18750	LT 2	3	LT 2	LT 2	LT 2	LT 2
Cadmium (Cd)	17	LT 0.15	LT 0.15	LT 0.15	LT 0.15	LT 0.15	LT 0.15
Cobalt (Co)	130	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Chromium III (Cr III)	460	LT 0.02	LT 0.02	LT 0.02	0.04	0.143	LT 0.02
Chromium VI (Cr VI)	0.2					LT 0.002#	
Copper (Cu)	7700	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Mercury (Hg)	94	LT 0.25	LT 0.25	LT 0.25	LT 0.25	LT 0.25	LT 0.25
Manganese (Mn)	15000	LT 2	360	LT 2	LT 2	LT 2	LT 2
Nickel (Ni)	930	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Lead (Pb)	23	LT 0.2	LT 0.2	LT 0.2	LT 0.2	LT 0.2	LT 0.2
Antimony (Sb)	560	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Selenium (Se)	460	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Tin (Sn)	180000	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Organic tin	12	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Strontium (Sr)	56000	LT 2	12	LT 2	LT 2	LT 2	LT 2
Zinc (Zn)	46000	LT 5	22	LT 5	LT 5	LT 5	LT 5
Mass of trace amount (gram)							
Conclusion		Pass	Pass	Pass	Pass	Pass	Pass

RESULTS:

MIGRATION OF CERTAIN ELEMENTS (European Standard EN 71 Part 3: 2013+A3:2018)

Analyte	Requirement (mg/kg)	Result (mg/kg)					
		Sample ID					
	Category III	S.	T.	U.	V.	W.	X.
Aluminium (Al)	70000	LT 2	20	2	LT 2	LT 2	41
Arsenic (As)	47	LT 0.15	0.173	LT 0.15	LT 0.15	LT 0.15	LT 0.15
Boron (B)	15000	LT 5	5	LT 5	LT 5	LT 5	LT 5
Barium (Ba)	18750	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Cadmium (Cd)	17	LT 0.15	LT 0.15	LT 0.15	LT 0.15	LT 0.15	LT 0.15
Cobalt (Co)	130	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Chromium III (Cr III)	460	LT 0.02	0.024	LT 0.02	LT 0.02	LT 0.02	0.126
Chromium VI (Cr VI)	0.2						LT 0.002#
Copper (Cu)	7700	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Mercury (Hg)	94	LT 0.25	LT 0.25	LT 0.25	LT 0.25	LT 0.25	LT 0.25
Manganese (Mn)	15000	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Nickel (Ni)	930	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Lead (Pb)	23	LT 0.2	LT 0.2	LT 0.2	LT 0.2	LT 0.2	LT 0.2
Antimony (Sb)	560	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Selenium (Se)	460	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Tin (Sn)	180000	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Organic tin	12	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Strontium (Sr)	56000	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Zinc (Zn)	46000	LT 5	LT 5	LT 5	LT 5	26	5
Mass of trace amount (gram)							
Conclusion		Pass	Pass	Pass	Pass	Pass	Pass

RESULTS:

MIGRATION OF CERTAIN ELEMENTS (European Standard EN 71 Part 3: 2013+A3:2018)

Analyte	Requirement (mg/kg)	Result (mg/kg)					
		Sample ID					
	Category III	Y.	Z.	AA.			
Aluminium (Al)	70000	3	60	549			
Arsenic (As)	47	LT 0.15	LT 0.15	0.3			
Boron (B)	15000	7	LT 5	7			
Barium (Ba)	18750	LT 2	4	13			
Cadmium (Cd)	17	LT 0.15	LT 0.15	LT 0.15			
Cobalt (Co)	130	LT 2	LT 2	LT 2			
Chromium III (Cr III)	460	LT 0.02	0.299	0.354			
Chromium VI (Cr VI)	0.2		LT 0.002#	LT 0.002#			
Copper (Cu)	7700	LT 2	LT 2	LT 2			
Mercury (Hg)	94	LT 0.25	LT 0.25	LT 0.25			
Manganese (Mn)	15000	LT 2	6	20			
Nickel (Ni)	930	LT 2	LT 2	LT 2			
Lead (Pb)	23	LT 0.2	0.563	0.744			
Antimony (Sb)	560	LT 2	LT 2	LT 2			
Selenium (Se)	460	LT 2	LT 2	LT 2			
Tin (Sn)	180000	LT 2	LT 2	LT 2			
Organic tin	12	LT 2	LT 2	LT 2			
Strontium (Sr)	56000	LT 2	23	40			
Zinc (Zn)	46000	LT 5	7	30			
Mass of trace amount (gram)							
Conclusion		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.

RESULTS:

END OF REPORT