



**BUREAU
VERITAS**

CONSUMER PRODUCTS SERVICES DIVISION

April 03, 2014
Page 1 of 12

Date Received: March 26, 2014

MONICA
MELISSA & DOUG, LLC
141 DANBURY ROAD
WILTON, CT 06897
UNITED STATES

Item Name: PETS SOUND PUZZLE

Vendor:

Factory Name:	DW	Shipment QTY:	1200
Labeled Age Grade:	2+	PO No.:	2061
Appropriate Age Grade:	OVER 2 YEARS OF AGE	Item No.:	10342/342
Client Specified Age Grade:	NOT SPECIFIED	Country of Origin:	CHINA
Tested Age Grade:	OVER 2 YEARS OF AGE	PDC:	DW14033
UPC Code:	000772103428	Customer Name:	N/A
Carton #:	N/A	Original/ Purpose:	ANNUAL UK
Category:	73/48 of 100	Testing Package:	FULL EU
Family Test:	N/A	Package Testing for:	N/A
Retest.:	N/A	NPD:	
		Goods Exported to:	N/A

EXECUTIVE SUMMARY:

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

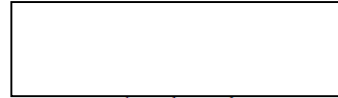
- The mechanical and physical properties requirements of the tested subclauses of the European Standard, "Safety of toys", EN71: Part 1:2011, incorporating amendment A2: 2013 clauses 1-7.
- The flammability requirements of the European Standard "Safety of Toys", EN 71: Part 2: 2011.
- The migration of certain elements in Category III - Scraped off toy material requirements of the European Standard, "Safety of Toys", EN 71 Part 3: 2013.
- The migration of certain elements in Category III - Scraped off toy material requirements of the German Ordinance on the Safety of Toys (Second Ordinance to the Equipment and Product Safety Act), Article 10 and European Standard, "Safety of Toys", EN 71 Part 3: 2013.

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This report is governed by, and incorporates by reference, the Conditions of Testing as posted at the date of issuance of this report at <http://www.bureauveritas.com/cps> and is intended for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence; provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.



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EXECUTIVE SUMMARY:

- Note: According to TSD 2009/48/EC, manufactures 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: According to TSD 2009/48/EC, the manufactures/ importer shall indicate their name, registered trade name or 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.

BUREAU VERITAS SHENZHEN CO., LTD.

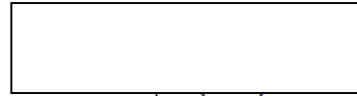
Wendy Cha

Wendy Cha
Manager
Toys And Juvenile Products Department

WC/ yz



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RESULTS:

APPROPRIATE AGE GRADE DETERMINATION

The Appropriate Age Grade is determined with reference to the EN71 : Part 1 : 2011, CR 14379:2002 "Classification of toys-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		



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RESULTS:

**MECHANICAL & PHYSICAL PROPERTIES
(EN 71: PART 1 – 2011+A2:2013)**

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	M
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
4.16	Heavy immobile toys	NA
4.17.1	Projectiles – General	NA



RESULTS:

**MECHANICAL & PHYSICAL PROPERTIES
(EN 71: PART 1 – 2011+A2:2013)**

Subclause	Requirement	Result
4.17.2	Projectiles toys without stored energy	NA
4.17.3 & 7.7	Projectile toys with stored energy	NA
4.17.4 & 7.7	Bows and arrows	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	NA
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
FOR TOYS INTENDED FOR CHILDREN UNDER 36 MONTHS		
5	Cleaning instruction for item intended for child under 3 years of age	NA
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	M
5.1f	Casing of toys	NA
5.2	Filings, coverings and seams	NA
5.3	Adhesion of plastic sheeting	NA
5.4 &	Cords on toys	NA
5.4(a)	Cords connected to self-retraction mechanism or in pull along toys	NA
5.4(b) & 7.22	Cords and chains that can form tangled loop or noose	NA
5.4(c) & 7.22	Fixed loop of cords or chains	NA
5.4(d)	Nooses	NA
5.4(e)	Self-retraction mechanism	NA
5.4(f) & 7.11	Toy across cradle, cot or perambulator	NA



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RESULTS:

**MECHANICAL & PHYSICAL PROPERTIES
(EN 71: PART 1 – 2011+A2:2013)**

Subclause	Requirement	Result
5.4(g) & 7.22	Cords and chains with free end (exclude pull along toy)	NA
5.4(h)	Cords and chains with free end on pull along toy	NA
5.4(i) & 7.21	Electrical cables	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
6	Packaging	NA
WARNINGS, INSTRUCTIONS FOR USE		
7	CE Mark	M
7	Manufacturer name and address	M
7	Importer name and address	M
7	Product Identification	M
7.1	General	NA
7.2	Toys not intended for children under 36 months	NA
7.5	Functional toys	NA



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	4.14.2	8.3, 8.4.2.1, 8.5, 8.7, 8.8, 8.11, 8.12	4.17.3	8.24.1	5.3	8.4.2.1, 8.25
4.5	8.5, 8.7, 8.11, 8.12	4.15.1.3	8.11, 8.12, 8.21, 8.22	4.17.4	8.24.2	5.4	8.20, 8.36, 8.38, 8.39, 8.40
4.6	8.2, 8.3, 8.4.2.1, 8.5, 8.7, 8.8, 8.14	4.15.1.4	8.23.1	4.18	8.2, 8.3, 8.4.2.1	5.5	8.15
4.7	8.11	4.15.1.5	8.26.1	4.20	8.28	5.6	8.29
4.8	8.12, 8.13	4.15.1.8	8.29	4.21	8.30	5.8	8.16
4.9	8.4.2.3, 8.11, 8.12	4.15.2.4	8.26.2	4.22	8.3, 8.4.2.1, 8.5, 8.6, 8.7, 8.8, 8.32	5.10	8.3, 8.4.2.1, 8.5, 8.6, 8.7, 8.8, 8.9, 8.32
4.10.1	8.18.2, 8.18.3	4.15.3	8.21, 8.23.1	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	5.11	8.33
4.10.2	8.5, 8.6, 8.7, 8.11, 8.12	4.15.4	8.21, 8.23.1	4.24	8.37	5.12	8.3, 8.4.2.1, 8.5, 8.6, 8.7, 8.8, 8.9,
4.11	8.2, 8.3, 8.4.2.1, 8.9, 8.17	4.15.5	8.11, 8.12, 8.21, 8.22, 8.26.3, 8.27	4.25	8.2, 8.3, 8.4.2.1, 8.5, 8.7, 8.8, 8.32.1	5.13	8.3, 8.4.2.1, 8.5, 8.7, 8.8, 8.32
4.13	8.19	4.16	8.23.2	5.1	8.2, 8.3, 8.4.2.1, 8.5, 8.7, 8.8, 8.9, 8.11, 8.12		
4.14.1	8.31.1, 8.31.2	4.17.1	8.4.2.3				

* Note: With modification by using Sound level meter complying with the specifications of IEC60651 and IEC60804.



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RESULTS:

FLAMMABILITY (EN 71 PART 2: 2011)

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

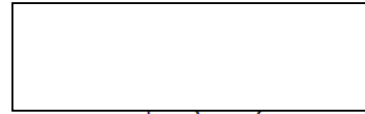
REQUIREMENTS & TEST METHODS CROSS REFERENCE TABLE FOR PART 2

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:

M&D MIGRATION OF CERTAIN ELEMENTS (European Standard EN 71 Part 3: 2013 & German Ordinance on the Safety of Toys (Second Ordinance to the Equipment and Product Safety Act), Article 10)

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

Class: Category III - Scraped off toy material

Sample Identity	Color	Location	Style
A.	Black coating	Back of puzzles	
B.	Red plastic	Pegs	
C.	Clear plastic	Senser	
D.	Multi-color printed white paper sticker	Paper sticker	
E.	Multi-color printed white paper / brown / light brown wood	Puzzles & base	
F.	Dark brown wood	Middle of base	
G.	Milky white plastic	Battery compartment	



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RESULTS:

M&D MIGRATION OF CERTAIN ELEMENTS (European Standard EN 71 Part 3: 2013 & German Ordinance on the Safety of Toys (Second Ordinance to the Equipment and Product Safety Act), Article 10)

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

Class: Category III - Scraped off toy material

Analyte	Requirement (mg/kg)		Result (mg/kg)					
	Category III		Sample ID					
			G	-	-	-	-	-
Aluminium (Al)	70000		LT 2	-	-	-	-	-
Arsenic (As)	47	25 [^]	LT 2	-	-	-	-	-
Boron (B)	15000		2	-	-	-	-	-
Barium (Ba)	18750	1000 [^]	LT 2	-	-	-	-	-
Cadmium (Cd)	17		LT 2	-	-	-	-	-
Cobalt (Co)	130		LT 2	-	-	-	-	-
Chromium III (Cr III)	460		LT 0.15	-	-	-	-	-
Chromium VI (Cr VI)	0.2							
Copper (Cu)	7700		LT 2	-	-	-	-	-
Mercury (Hg)	94	60 [^]	LT 2	-	-	-	-	-
Manganese (Mn)	15000		LT 2	-	-	-	-	-
Nickel (Ni)	930		LT 2	-	-	-	-	-
Lead (Pb)	160	90 [^]	LT 2	-	-	-	-	-
Antimony (Sb)	560	60 [^]	LT 2	-	-	-	-	-
Selenium (Se)	460		LT 2	-	-	-	-	-
Tin (Sn)	180000		LT 2	-	-	-	-	-
Organic tin	12		LT 2	-	-	-	-	-
Strontium (Sr)	56000		LT 2	-	-	-	-	-
Zinc (Zn)	46000		LT 2	-	-	-	-	-
Mass of trace amount (gram)				-	-	-	-	-
Conclusion	EN71-3: 2003		Pass	-	-	-	-	-
	German limit		Pass	-	-	-	-	-

mg/kg = milligrams per kilogram (ppm=parts per million) LT = Less Than
 * = Average of duplicate analysis FR = Failed Result
 Organic tin = migration of total organic tin is expressed as tributyl tin cation content in mg/kg
[^] = German limit of directive 88/378/EEC
 # = 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, Annex G by Gas Chromatography – Mass Spectroscopy analysis.



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RESULTS:



Test Report

Report No.: TJD01F009115a

Page 1 of 5

Applicant :

Address :

Report on the submitted sample(s) said to be:

Sample Name : Vehicles Sound Puzzle/Farm Animals Sound Puzzle/
Zoo Animals Sound Puzzle/Classic Farm Sound Puzzle

Item/Lot No. : 10725/725,10726/726,10727/727,10268/268

P.O. No. : 1964

PDC : DW13250

Factory Name : DW

Customer :

Original/Purpose : Annual UK

Carton No : 38, 82 of 100/27,90 of 100/2,44 of 100/93,98 of 100

Shipment Quantity : 1200,1200,1200,1200

Quantity of Sample : 4styles*3pcs

Country of Origin : China

Exported to : NA

Client Specified Age Grading : Not stated

Labelled Age Grading : 2+

Age Group Applied in Testing : Over 18 months

Sample Received Date : Nov. 01, 2013

Sample Tested Date : Nov. 01, 2013 to Dec. 13, 2013

Test Conducted:

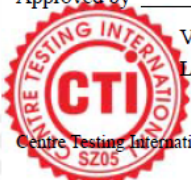
As requested by the applicant, for details refer to next page(s)

Tested by Kitty Zhang

Reviewed by Richard L

Approved by Victor Wang

Date 2013-12-20



Victor Wang
Lab Manager

No. 1336499953

Centre Testing International (Shenzhen) Co., Ltd. Hongwei Industrial Zone, Bao'an 70 District, Shenzhen, Guangdong, China

Test Report

Report No.: TJD01F009115a

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Executive Summary:

TEST REQUEST

European Standard on Safety of Toys:

- EN 71-1:2011+A2:2013 Mechanical and Physical Properties
- EN 71-2: 2011 Flammability of Toys

CONCLUSION

PASS

PASS

***** For Further Details, Please Refer To the Following Page(s) *****

Test Report

Report No.: TJD01F009115a

Page 3 of 5

▼ **Mechanical and physical properties**

As specified in European Standard on Safety of Toys EN 71 part 1:2011+A2:2013.

<u>Clause</u>	<u>Description</u>	<u>Assessment</u>
4	General requirements	
4.1	Material cleanliness.....	Pass
4.7	Edges	Pass
4.8	Points and metallic wires	Pass
4.20	Acoustics	Pass
5	Toys intended for children under 36 months	
	--Washing/Cleaning Label.....	Pass
5.1	General requirements:	
5.1a	Small part requirement on toys & removable Components (Test method 8.2)	Pass
5.1b	Torque test (Test method 8.3)	Pass
	Tension test (Test method 8.4)	Pass
	Drop test (Test method 8.5)	Pass
	Impact test (Test method 8.7)	Pass
	Compression test (Test method 8.8)	Pass
	Sharp edge (Test method 8.11)	Pass
	Sharp point (Test method 8.12)	Pass
5.1e	Glued wooden toys and toys with glued on plastic decals	Pass
7	Warnings and instructions for use	
	--CE marking requirement	Pass
	--Manufacturer and importer's name or registered name/trade mark and address	Pass
	--Product Identification: type, batch, serial or model number or other element	Pass
7.1	General	N/A

N/A = Not Applicable

Note:

- Only applicable clauses were shown

Test Report

Report No.: TJD01F009115a

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▼ Flammability of Toys

As specified in European Standard on Safety of Toys – EN 71 part 2: 2011.

<u>Clause</u>	<u>Description</u>	<u>Assessment</u>
4	Requirements	
4.1	General	Pass
	(The following materials shall not be used in the manufacture of toys except as provided in EN 71-2:2011 :	
	Celluloid, materials with the same behaviour in fire as celluloid, materials with a piled surface which produce surface flash, flammable gases, extremely flammable liquids, highly flammable liquids, flammable liquids and flammable gels.)	

Note:

- Only applicable clauses were shown

Test Report

Report No.: TJD01F009115a

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Photo of the sample



*** End of Report ***

The test report is effective only with both signature and specialized stamp. The result(s) shown in this report refer only to the sample(s) tested. Without written approval of CTI, this report can't be reproduced except in full.

Test Report

Report No.: TJD01F009115b

Page 1 of 7

Applicant :

Address :

Report on the submitted sample(s) said to be:

Sample Name : Vehicles Sound Puzzle/Farm Animals Sound Puzzle/
Zoo Animals Sound Puzzle/Classic Farm Sound Puzzle

Item/Lot No. : 10725/725,10726/726,10727/727,10268/268

P.O. No. : 1964

PDC : DW13250

Factory Name : DW

Customer :

Original/Purpose : Annual UK

Carton No : 38, 82 of 100/27,90 of 100/2,44 of 100/93,98 of 100

Shipment Quantity : 1200,1200,1200,1200

Quantity of Sample : 4styles*3pcs

Country of Origin : China


Exported to : NA

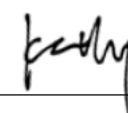
Sample Received Date : Nov. 01, 2013

Sample Tested Date : Nov. 01, 2013 to Dec. 13, 2013

Test Conducted:

As requested by the applicant, for details refer to next page(s)

Tested by 

Reviewed by 

Approved by 

Date 2013-12-20



Victor Wang
Lab Manager

No. 1336499953

Centre Testing International (Shenzhen) Co., Ltd. Hongwei Industrial Zone, Bao'an 70 District, Shenzhen, Guangdong, China

Test Report

Report No.: TJD01F009115b

Page 2 of 7

Executive Summary:

TEST REQUEST

European Standard on Safety of Toys:

- EN 71-3:2013 Migration of certain elements

CONCLUSION

PASS

For chemical test, the tested component(s) is/are identified by the applicant.

***** For Further Details, Please Refer To the Following Page(s) *****

Test Report

Report No.: TJD01F009115b

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▼ Migration of certain elements

As specified in European standard on safety of toys EN 71-3:2013 - Migration of certain elements, acid extraction method was used and toxic elements content were determined by ICP-OES, ICP-MS, HPLC-ICP-MS and GC-MS.

Category III: scraped-off toy material

Tested Item	Result (mg/kg)					MDL (mg/kg)	Limit (mg/kg)	M&D's Limit (mg/kg)
	(1)	(2)	(3)	(4)	(5)			
Aluminium (Al)	525	512	557	530	512	50	70000	70000
Antimony (Sb)	ND	ND	ND	ND	ND	5	560	60
Arsenic (As)	ND	ND	ND	ND	ND	5	47	25
Barium (Ba)	ND	ND	ND	ND	ND	50	18750	1000
Boron (B)	ND	ND	ND	ND	ND	50	15000	15000
Cadmium (Cd)	ND	ND	ND	ND	ND	1	17	17
Chromium (Cr) ^{#1}	ND	ND	ND	ND	ND	0.2	--	--
Chromium (III) ^{#2}	--	--	--	--	--	--	460	460
Chromium (VI)	ND	ND	ND	ND	ND	0.001	0.2	0.2
Cobalt (Co)	ND	ND	ND	ND	ND	5	130	130
Copper (Cu)	ND	ND	ND	ND	ND	50	7700	7700
Lead (Pb)	ND	ND	ND	ND	ND	5	160	90
Manganese (Mn)	ND	ND	ND	ND	ND	50	15000	15000
Mercury (Hg)	ND	ND	ND	ND	ND	5	94	60
Nickel (Ni)	ND	ND	ND	ND	ND	5	930	930
Selenium (Se)	ND	ND	ND	ND	ND	5	460	460
Strontium (Sr)	ND	ND	ND	ND	ND	50	56000	56000
Tin (Sn) ^{#3}	ND	ND	ND	ND	ND	2	180000	180000
Organic tin (TBT) ^{#4}	ND	ND	ND	ND	ND	0.2	12	12
Zinc (Zn)	ND	ND	ND	ND	ND	50	46000	46000

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Tested Item	Result (mg/kg)					MDL (mg/kg)	Limit (mg/kg)	M&D's Limit (mg/kg)
	(6)	(7)	(8)	(9)	(10)			
Aluminium (Al)	ND	ND	ND	ND	ND	50	70000	70000
Antimony (Sb)	ND	ND	ND	ND	ND	5	560	60
Arsenic (As)	ND	ND	ND	ND	ND	5	47	25
Barium (Ba)	ND	ND	ND	ND	ND	50	18750	1000
Boron (B)	ND	ND	ND	ND	ND	50	15000	15000
Cadmium (Cd)	ND	ND	ND	ND	ND	1	17	17
Chromium (Cr) ^{#1}	ND	ND	ND	ND	ND	0.2	--	--
Chromium (III) ^{#2}	--	--	--	--	--	--	460	460
Chromium (VI)	ND	ND	ND	ND	ND	0.001	0.2	0.2
Cobalt (Co)	ND	ND	ND	ND	ND	5	130	130
Copper (Cu)	ND	ND	ND	ND	ND	50	7700	7700
Lead (Pb)	ND	ND	ND	ND	ND	5	160	90
Manganese (Mn)	ND	ND	ND	ND	ND	50	15000	15000
Mercury (Hg)	ND	ND	ND	ND	ND	5	94	60
Nickel (Ni)	ND	ND	ND	ND	ND	5	930	930
Selenium (Se)	ND	ND	ND	ND	ND	5	460	460
Strontium (Sr)	ND	ND	ND	ND	ND	50	56000	56000
Tin (Sn) ^{#3}	ND	ND	ND	ND	ND	2	180000	180000
Organic tin (TBT) ^{#4}	ND	ND	ND	ND	ND	0.2	12	12
Zinc (Zn)	ND	ND	ND	ND	ND	50	46000	46000

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Tested Item	Result (mg/kg)					MDL (mg/kg)	Limit (mg/kg)	M&D's Limit (mg/kg)
	(11)	(12)	(13)	(14)	(15)			
Aluminium (Al)	ND	ND	ND	ND	88	50	70000	70000
Antimony (Sb)	ND	ND	ND	ND	ND	5	560	60
Arsenic (As)	ND	ND	ND	ND	ND	5	47	25
Barium (Ba)	ND	ND	ND	ND	ND	50	18750	1000
Boron (B)	ND	ND	ND	ND	ND	50	15000	15000
Cadmium (Cd)	ND	ND	ND	ND	ND	1	17	17
Chromium (Cr) ^{#1}	ND	ND	ND	ND	ND	0.2	--	--
Chromium (III) ^{#2}	--	--	--	--	--	--	460	460
Chromium (VI)	ND	ND	ND	ND	ND	0.001	0.2	0.2
Cobalt (Co)	ND	ND	ND	ND	ND	5	130	130
Copper (Cu)	ND	ND	ND	ND	ND	50	7700	7700
Lead (Pb)	ND	ND	ND	ND	ND	5	160	90
Manganese (Mn)	ND	ND	ND	ND	68	50	15000	15000
Mercury (Hg)	ND	ND	ND	ND	ND	5	94	60
Nickel (Ni)	ND	ND	ND	ND	ND	5	930	930
Selenium (Se)	ND	ND	ND	ND	ND	5	460	460
Strontium (Sr)	ND	ND	ND	ND	ND	50	56000	56000
Tin (Sn) ^{#3}	ND	ND	ND	ND	ND	2	180000	180000
Organic tin (TBT) ^{#4}	ND	ND	ND	ND	ND	0.2	12	12
Zinc (Zn)	ND	ND	ND	ND	ND	50	46000	46000

Tested Component(s):

- (1) White paper label with multi-color coating(product label, 10727/727)
- (2) White paper label with multi-color coating(product label, 10726/726)
- (3) White paper label with multi-color coating(product label, 10725/725)
- (4) White paper label with multi-color coating(product label, 10268/268)
- (5) White paper sticker with black coating(battery label, 10727/727,10726/726,10725/725,10268/268)
- (6) White paper with multi-color coating(board and pieces, 10727/727)
- (7) White paper with multi-color coating(board and pieces, 10726/726)
- (8) White paper with multi-color coating(board and pieces, 10725/725)
- (9) White paper with multi-color coating(board and pieces, 10268/268)
- (10) Beige plastic(cover of battery on board, 10727/727,10726/726,10725/725,10268/268)

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- (11) Red plastic(peg of pieces, 10727/727,10726/726,10725/725,10268/268)
- (12) Transparent plastic(light sensor of board, 10727/727,10726/726,10725/725,10268/268)
- (13) Black coating(back of pieces, 10727/727,10726/726,10725/725,10268/268) (sample weight:82.5mg)
- (14) Natural plywood(board and pieces, 10727/727,10726/726,10725/725,10268/268)
- (15) Brown MDF(board, 10727/727,10726/726,10725/725,10268/268)

Remark:

- mg/kg = milligram per kilogram = ppm
- ND = Not Detected (less than MDL)
- MDL = Method Detection Limit
- Filter paper was used instead of membrane filter in lab testing.
- Where the test portion has a mass of between 10mg and 100mg, the quantity of the appropriate elements shall be calculated as if 100mg of the test portion had been used.
- ^{#1} Chromium (Cr) content can be used for screen test for hexavalent chromium and trivalent chromium analysis and to show compliance with the requirement of EN 71-3:2013.
- ^{#2} Chromium (Cr) = Hexavalent chromium (Cr (VI)) +Trivalent chromium (Cr (III)), where the chromium content exceeded the limits of hexavalent chromium amd/or trivalent chromium, then hexavalent chromium was analyzed by HPLC-ICP-MS and trivalent chromium content was calculated using the formula.
- ^{#3} Tin (Sn) content can be used for screen test for organic tins analysis to show compliance with the requirement of EN 71-3:2013.
- ^{#4} The migration of organic tin is expressed as tributyltin (TBT). where the tin content exceeded the limit of organic tin, ten organic tins listed in table were determined by GC-MS and the client should be noted there are other organic tins may be present in toy materials.

Organic tins tested under EN 71-3:2013
Methyl tin (MeT)
Butyl tin (BuT)
Dibutyl tin (DBT)
Tributyl tin (TBT)
Tetrabutyl tin (TeBT)
n-Octyl tin (MOT)
Di-n-octyl tin (DOT)
Di-n-propyl tin (DProT)
Diphenyl tin (DPhT)
Triphenyl tin (TPhT)

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Photo of the sample



*** End of Report ***

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