

CONSUMER PRODUCTS SERVICES DIVISION

 Technical Report:
 (8516)124-0532(Revision)
 May 13, 2016

 Date Received:
 May 03, 2016
 Page 1 of 17

NOBUCO SARL 5 RUE TRONFOU 01700 ST MAURICE DE BEYNOST FRANCE

(\*)Sample Description: TOYS(PUZZLE MAT)

1.) PAW PATROL

2.) CARS
3.) DORY
4.) FROZEN
5.) HOPSCOTCH

Vendor: GUANG DONG FAIRNESS Sample Size:

Manufacturer: ENTERPRISE CO LTD

Manufacturer: GUANG DONG FAIRNESS (\*)Style No(s): TFR8D/DY.S0.9C1-32.10/
ENTERPRISE CO LTD TD8D/TPP8D.3/THOPS10D

Buyer: NOBUCO SARL SKN/SKU No.: N/A Labeled Age Grade: N/A PO No.: N/A

Appropriate Age Grade: N/A Ref #: N/A
Client Specified Age N/A Country of Origin: CHINA
Grade:

Tested Age Grade: FOR STYLE#5 SAMPLE(S) =

OVER 3 YEARS OF AGE, FOR

OTHERS = OVER 10 MONTHS

OF AGE

UPC Code: N/A Test Starting Date: MAY 03, 2016

Test Finished Date: MAY 12, 2016

Assortment No.:

5

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 1:2014, clauses 1-6.
- 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+A1:2014.



GUANG DONG FAIRNESS ENTERPRISE CO LTD Technical Report: **(8516)124-0532(Revision)** May 13, 2016 Page 2 of 17

## **EXECUTIVE SUMMARY:**

Note: No relevant packaging was provided with the submitted sample(s), consequently, evaluation of the labeling requirements of the European Standard, "Safety of toys", EN 71:Part 1:2014, Clause 7, was not conducted.

BUREAU VERITAS SHENZHEN CO.,LTD

BUREAU VERITAS SHENZHEN CO., LTD.

Choy Hon Kwong, Adams Senior Manager Analytical Department

Simon Chan Manager

Toys And Juvenile Products Department

AC/SC/jq

This report shall not be reproduced except in full, without the written approval of our laboratory.



GUANG DONG FAIRNESS ENTERPRISE CO LTD Technical Report: (8516)124-0532(Revision) May 13, 2016 Page 3 of 17

#### **RESULTS:**

#### APPROPRIATE AGE GRADE DETERMINATION

The Appropriate Age Grade is determined with reference to the EN71 : Part 1 : 2014, 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

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

#### EXPLANATION OF THE ABBREVIATIONS FOR PART 1, 2 & 6

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



GUANG DONG FAIRNESS ENTERPRISE CO LTD Technical Report: **(8516)124-0532(Revision)** May 13, 2016 Page 4 of 17

# RESULTS:

For style#1-4 sample(s):

Subclause	Requirement	Result
4.1	Material cleanliness	М
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	М
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
4.16	Heavy immobile toys	NA
4.17.1	Projectiles – General	NA
4.17.2	Projectiles toys without stored energy	NA
4.17.3 & 7.7	Projectile toys with stored energy	NA



GUANG DONG FAIRNESS ENTERPRISE CO LTD Technical Report: **(8516)124-0532(Revision)** May 13, 2016 Page 5 of 17

# RESULTS:

For style#1-4 sample(s):

Subclause	Requirement	Result
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	М
5.1a	Small parts – as received	М
5.1b	Small parts, sharp points, sharp edges – after tests	М
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 &	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
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



GUANG DONG FAIRNESS ENTERPRISE CO LTD Technical Report: **(8516)124-0532(Revision)** May 13, 2016 Page 6 of 17

# RESULTS:

For style#1-4 sample(s):

Subclause	Requirement	Result
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	NA
7	Manufacturer name and address	NA
7	Importer name and address	NA
7	Product Identification	NA
7.1	General	NA
7.2	Toys not intended for children under 36 months	NA
7.5	Functional toys	NA



GUANG DONG FAIRNESS ENTERPRISE CO LTD Technical Report: **(8516)124-0532(Revision)** May 13, 2016 Page 7 of 17

# **RESULTS:**

For style#1-4 sample(s):

# REQUIREMENTS & TEST METHODS CROSS REFERENCE TABLE FOR PART 1

Sub-	Test Method	Sub-	Test Method	Sub-	Test Method	Sub-	Test Method
clause		clause		clause		clause	
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				



GUANG DONG FAIRNESS ENTERPRISE CO LTD Technical Report: **(8516)124-0532(Revision)** May 13, 2016 Page 8 of 17

# RESULTS:

For style#5 sample(s):

Subclause	Requirement	Result
4.1	Material cleanliness	М
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
4.16	Heavy immobile toys	NA
4.17.1	Projectiles – General	NA
4.17.2	Projectiles toys without stored energy	NA
4.17.3 & 7.7	Projectile toys with stored energy	NA



GUANG DONG FAIRNESS ENTERPRISE CO LTD Technical Report: **(8516)124-0532(Revision)** May 13, 2016 Page 9 of 17

# RESULTS:

For style#5 sample(s):

Subclause	Requirement	Result
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	NA
5.1f	Casing of toys	NA
5.2	Fillings, 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
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



GUANG DONG FAIRNESS ENTERPRISE CO LTD Technical Report: **(8516)124-0532(Revision)** May 13, 2016 Page 10 of 17

# RESULTS:

For style#5 sample(s):

Subclause	Requirement	Result
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	NA
7	Manufacturer name and address	NA
7	Importer name and address	NA
7	Product Identification	NA
7.1	General	NA
7.2	Toys not intended for children under 36 months	NA
7.5	Functional toys	NA



GUANG DONG FAIRNESS ENTERPRISE CO LTD Technical Report: **(8516)124-0532(Revision)** May 13, 2016 Page 11 of 17

# **RESULTS:**

For style#5 sample(s):

# 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				



GUANG DONG FAIRNESS ENTERPRISE CO LTD Technical Report: **(8516)124-0532(Revision)** May 13, 2016 Page 12 of 17

## **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	-	-



GUANG DONG FAIRNESS ENTERPRISE CO LTD Technical Report: **(8516)124-0532(Revision)** May 13, 2016 Page 13 of 17

# **RESULTS:**

# MIGRATION OF CERTAIN ELEMENTS (European Standard EN 71 Part 3: 2013+A1:2014)

Test Method : European Standard EN 71 Part 3: 2013+A1:2014, Annex E.

Class: Category III - Scraped off toy material

Sample Identity	Color	Location	Style
A.	Multi color printed white foam	Puzzle mat	1-4
B.	Purple foam	Puzzle mat	5
C.	Yellow foam	Puzzle mat	5
D.	Red foam	Puzzle mat	5
E.	Blue foam	Puzzle mat	5
F.	Orange foam	Puzzle mat	5
G.	Green foam	Puzzle mat	5



GUANG DONG FAIRNESS ENTERPRISE CO LTD Technical Report: **(8516)124-0532(Revision)** May 13, 2016 Page 14 of 17

# **RESULTS:**

# MIGRATION OF CERTAIN ELEMENTS (European Standard EN 71 Part 3: 2013+A1:2014)

Test Method: European Standard EN 71 Part 3: 2013+A1:2014, Annex E.

Class: Category III - Scraped off toy material

	Requirement	Result (mg/kg)						
Analyte	(mg/kg)	Sample ID						
	Category III	A.	B.	C.	D.	E.	F.	
Aluminium (AI)	70000	6	9	6	2	4	4	
Arsenic (As)	47	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	
Boron (B)	15000	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	
Barium (Ba)	18750	LT 2	16	LT 2	8	3	LT 2	
Cadmium (Cd)	17	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	
Cobalt (Co)	130	LT 2	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	0.30	LT 0.15	
Chromium VI (Cr VI)	0.2					#LT 0.002		
Copper (Cu)	7700	5	LT 2	LT 2	LT 2	LT 2	LT 2	
Mercury (Hg)	94	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	
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)	160	LT 2	LT 2	LT 2	LT 2	LT 2	LT 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	90	90	120	93	100	100	
Mass of trace amount (gram)		0.0848	0.0945	0.0716	-	0.0862	-	
Conclusion		Pass	Pass	Pass	Pass	Pass	Pass	



GUANG DONG FAIRNESS ENTERPRISE CO LTD Technical Report: (8516)124-0532(Revision) May 13, 2016 Page 15 of 17

#### **RESULTS:**

### MIGRATION OF CERTAIN ELEMENTS (European Standard EN 71 Part 3: 2013+A1:2014)

Test Method: European Standard EN 71 Part 3: 2013+A1:2014, Annex E.

Class: Category III - Scraped off toy material

Analyte	Requirement	Result (mg/kg)						
	(mg/kg)	Sample ID						
	Category III	G.	-	-	-	-	-	
Aluminium (AI)	70000	5	-	-	-	-	-	
Arsenic (As)	47	LT 2	-	-	-	-	-	
Boron (B)	15000	LT 2	-	-	-	-	-	
Barium (Ba)	18750	3	-	-	-	-	-	
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	LT 2	-	-	-	-	-	
Manganese (Mn)	15000	LT 2	-	-	-	-	-	
Nickel (Ni)	930	LT 2	-	-	-	-	-	
Lead (Pb)	160	LT 2	-	-	-	-	-	
Antimony (Sb)	560	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	87	-	-	-	-	-	
Mass of trace amount (gram)		-	-	-	-	-	-	
Conclusion		Pass	-	-	-	-	-	

mg/kg = milligrams per kilogram (ppm=parts per million)
\* = Average of duplicate analysis LT = Less Than

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.

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+A1:2014, Annex G by Gas Chromatography Mass Spectroscopy analysis.



GUANG DONG FAIRNESS ENTERPRISE CO LTD Technical Report: **(8516)124-0532(Revision)** May 13, 2016 Page 16 of 17

# **RESULTS:**









GUANG DONG FAIRNESS ENTERPRISE CO LTD Technical Report: **(8516)124-0532(Revision)** May 13, 2016 Page 17 of 17

# (\*)RESULTS:



Sample Number (8516)124-0532

END OF REPORT