#### **Products**



Report No.: 0144068415a 001 Page 1 of 25

Client: JOHN N. HANSEN CO., INC.

369 Adrian Road, Millbrae, CA 94030-3104, United States of America

Test item(s): Toys

Identification/ Hoberman Mega Sphere - Spectrum MS 801 Mini Sphere - Rings /

Model No(s): Rainbow / Expanding Universe Glow / Firefly Glow -

M1335/M1301/M1319/M1336 Hoberman Sphere - Rings / Rainbow /

Expanding Universe Glow / Moon Glow - HS124/HS104/HS119/HS105/HS106

**Sample Receiving date:** 2015-07-27, 2015-08-07

*Testing Period:* 2015-07-28 - 2015-08-12

Test Specification:

Please refer to "Test Result Summary List" on page 2 for details

Other information:

Country of Origin: China

Country of Destination: U.S.A./ U.K./ DUBA/ CANADA/ EUROPE

The provided age grade of the item(s): Not Provided

The appropriate age grade of the item(s): For age over 3 years.

The item(s) was/ were tested for the age of over 3 years.

Packaging provided: Yes

Provided sample size: 6 pcs

Our reference no. of this report: 0144070010

For and on behalf of

TÜV Rheinland Hong Kong Ltd.

2015-08-17 To Wai Keung, William / Unit Senior Manager

Date Name/Position



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## **Test Result Summary:**

Total On a different and	T4
Test Specification:	Test result:
1 EN 71 - 1 : 2014 Mechanical and physical properties	PASS
2 2009/48/EC CE marking	PASS
3 2009/48/EC Labeling Requirement (Importer/ Manufacturer Mark, Product Identification, Washing/ Cleaning instruction)	Please refer to page 6
4 EN 71 - 2:2011 + A1:2014 Flammability	PASS
5 EN71-3:2013+A1:2014 Migration of 19 Elements	PASS
6 Total Cadmium Content - REACH regulation (EC) No. 1907/2006 Annex XVII Item 23 and its amendments (EC) No. 552/2009, (EU) No. 494/2011 and (EU) No. 835/2012	PASS
7 BBP, DBP, DEHP content and DNOP, DINP, DIDP content requirements of REACH regulation (EC) No. 1907/2006 and amendment no. 552/2009 Annex XVII Item 51 & 52 respectively (formerly known as 2005/84/EC)	PASS
8 Packaging Waste Heavy Metal Test - 94/62/EC	PASS
9 Organotin compounds content according to REACH Regulation (EC) No. 1907/2006 Annex XVII Item 20 and amendment Commission Regulation (EU) No. 276/2010 (formerly known as 2009/425/EC)	PASS
10 Polycyclic aromatic hydrocarbons (PAHs) - REACH regulation (EC) No. 1907/2006 with Amendment No. 552/2009 Annex XVII Item No. 50 and (EU) No.1272/2013	PASS
11 ASTM F963-11: Mechanical & physical	PASS
12 ASTM F963-11: Flammability on solids and soft toys	PASS
13 ASTM F963-11 Sect. 4.3.5.1, CPSIA Sect. 101: Total lead content in paint and coating materials	PASS
14 ASTM F963-11 Sect. 4.3.5.2, CPSIA Sect. 101: Total lead content in substrate materials	PASS
15 ASTM F963-11 Sect. 4.3.5.1 and 4.3.5.2 : Soluble heavy metal	PASS
16 CPSIA Sect 108 : Phthalates	PASS
17 CPSIA Sect 103: Tracking label	Please refer to page 23
18 Toxic in Packaging Clearinghouse (TPCH) - Model Toxics in Packaging Legislation as revised by Dec 2008, "formerly governed organization - CONEG"	PASS



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### **Material List:**

Item:

Hoberman Mega Sphere - Spectrum MS 801 Mini Sphere - Rings / Rainbow / Expanding Universe Glow / Firefly Glow - M1335/M1301/M1319/M1336 Hoberman Sphere - Rings / Rainbow / Expanding Universe Glow / Moon Glow - HS124/HS104/HS119/HS105/HS106

Material No.	Material	Color	Location
M001	Whole Product	Multicolor	Whole Product
M002	Coating	Black	Pattern on instruction
M003	Plastic	Plastic Red Jo	
M004	Plastic	Purple	Sphere
M005	Plastic	Yellow	Sphere
M006	Plastic	Green	Sphere
M007	Plastic	Blue	Sphere
M009	Paper + coating	White with Black	Instruction with pattern
M010	Plastic	Transparent	Polybag



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### 1. EN71 - 1:2014 Mechanical and physical properties

#### Test result:

	Test No:	T001
	Material No:	M001
4. General requirements		
4.1 Material cleanliness		PASS
4.7 Edges		PASS
4.8 Points and metallic wires		PASS
6. Packaging		PASS
7. Warnings, markings and instructions for use	1	
7.1 General		PASS

The clause and/or sub-clause would be indicated only in the test report whichever applicable. The comprehensive result report is available upon request.



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### 2. 2009/48/EC CE Marking

#### Test result:

Test No:	T001
Material No:	M001
CE-marking	PASS



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# 3. 2009/48/EC Labeling Requirement (Importer/ Manufacturer Mark, Product Identification, Washing/ Cleaning instruction)

#### Test result:

Test No:	T001
Material No:	M001
Importer/ Manufacturer Mark (European Company name and address)+	Absent
Product Identification - type, batch, serial or model number+	Present(Package)
Washing/ Cleaning instruction ^	Not Applicable

#### Remark:

- \* Only the English version of the marking and instructions were assessed. According to the standard, instruction and other texts required by the standard should be written in the official language(s) of the country in which the product is to be sold.
- + These labeling shall be indicated on the toy, or where that is not possible, on its packaging or in documents accompanying the toys.

The correct adherence to all requirements according to directive 2009/48/EC in regards to the marking (name or trademark and contact address of the manufacturer respectively the marking for identification [type, batch, model or serial no.])of the toy can only be confirmed by the manufacturer, his delegate or the person who brings it onto the market. The marked article were assessed, however, they can not be evaluated in the frame of this test.

^ According to Directive 2009/48/EC, a toy intended for use by children under 36 months must be designed and manufactured in such a way that it can be cleaned. A textile toy shall, to this end, be washable, except if it contains a mechanism that may be damaged if soak washed. The toy shall fulfill the safety requirements also after having been cleaned in accordance with this point and the manufacturer's instructions.

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### 4. EN 71 - 2: 2011+A1 :2014 Flammability

#### Test result:

Test No:	T001
Material No:	M001
4.1 General	PASS

The clause and/or sub-clause would be indicated only in the test report whichever applicable. The comprehensive result report is available upon request.



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### 5. EN71-3:2013+A1:2014 Migration of 19 Elements

Test Method: with reference to EN71-3:2013+A1:2014, for inorganic elements, analyzed by ICP-OES

or ICP-MS.

### 3) For scraped-off toy materials:

			Test No.	T001	T002	T003
			Material No.	M003	M004	M005
Test Parameter	Unit	RL	Regulatory Requirement	Result	Result	Result
Aluminium (AI)	mg/kg	10	70000	n.d.	n.d.	n.d.
Antimony (Sb)	mg/kg	1	560	n.d.	n.d.	n.d.
Arsenic (As)	mg/kg	1	47	n.d.	n.d.	n.d.
Barium (Ba)	mg/kg	2.5	18750	n.d.	n.d.	n.d.
Boron (B)	mg/kg	10	15000	n.d.	n.d.	n.d.
Cadmium (Cd)	mg/kg	1	17	n.d.	n.d.	n.d.
Chromium (Cr)	mg/kg	0.15	-	n.d.	n.d.	n.d.
Chromium (III) (Cr (III))§	mg/kg	0.15	460	-	-	-
Chromium (VI) (Cr (VI))§	mg/kg	0.15	0.2	-	-	-
Cobalt (Co)	mg/kg	2.5	130	n.d.	n.d.	n.d.
Copper (Cu)	mg/kg	2.5	7700	n.d.	n.d.	n.d.
Lead (Pb)	mg/kg	2.5	160	n.d.	n.d.	n.d.
Manganese (Mn)	mg/kg	2.5	15000	n.d.	n.d.	n.d.
Mercury (Hg)	mg/kg	1	94	n.d.	n.d.	n.d.
Nickel (Ni)	mg/kg	2.5	930	n.d.	n.d.	n.d.
Selenium (Se)	mg/kg	2.5	460	n.d.	n.d.	n.d.
Strontium (Sr)	mg/kg	2.5	56000	n.d.	n.d.	n.d.
Tin (Sn)	mg/kg	1.0	180000	n.d.	n.d.	n.d.
Organic Tin^	mg/kg	1.0	12	-	-	-
Zinc (Zn)	mg/kg	10	46000	n.d.	n.d.	n.d.



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			Test No.	T004	T005	T006
		Material No.	M006	M007	M009	
Test Parameter	Unit	RL	Regulatory Requirement	Result	Result	Result
Aluminium (Al)	mg/kg	10	70000	n.d.	n.d.	n.d.
Antimony (Sb)	mg/kg	1	560	n.d.	n.d.	n.d.
Arsenic (As)	mg/kg	1	47	n.d.	n.d.	n.d.
Barium (Ba)	mg/kg	2.5	18750	n.d.	n.d.	n.d.
Boron (B)	mg/kg	10	15000	n.d.	n.d.	n.d.
Cadmium (Cd)	mg/kg	1	17	n.d.	n.d.	n.d.
Chromium (Cr)	mg/kg	0.15	-	n.d.	n.d.	n.d.
Chromium (III) (Cr (III))§	mg/kg	0.15	460	-	-	-
Chromium (VI) (Cr (VI))§	mg/kg	0.15	0.2	-	-	-
Cobalt (Co)	mg/kg	2.5	130	n.d.	n.d.	n.d.
Copper (Cu)	mg/kg	2.5	7700	n.d.	n.d.	n.d.
Lead (Pb)	mg/kg	2.5	160	n.d.	n.d.	n.d.
Manganese (Mn)	mg/kg	2.5	15000	n.d.	n.d.	2.9
Mercury (Hg)	mg/kg	1	94	n.d.	n.d.	n.d.
Nickel (Ni)	mg/kg	2.5	930	n.d.	n.d.	n.d.
Selenium (Se)	mg/kg	2.5	460	n.d.	n.d.	n.d.
Strontium (Sr)	mg/kg	2.5	56000	n.d.	n.d.	36.7
Tin (Sn)	mg/kg	1.0	180000	n.d.	n.d.	n.d.
Organic Tin^	mg/kg	1.0	12	-	-	-
Zinc (Zn)	mg/kg	10	46000	n.d.	n.d.	n.d.

**Abbreviation:** n.d. =

n.d. = Not Detected (< RL)

RL = Reporting Limit

mg/kg denotes milligram per kilogram

- § denotes Cr(III) and Cr(VI) are not necessary to be determined when the Combined Chromium concentration value is less than the requirement
- ^ denotes Organic tin are not necessary to be determined when the Tin concentration is less than calculated limit (3.9 mg/kg) or the components were confirmed to be pure metal



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#### **6.Total Cadmium Content**

Test Method: For plastic: EN 1122:2001 (method B)

For metal and other material: Acid digestion, analyzed by AAS/ ICP-OES

#### **Test Result:**

Test No.	Material No.	Test Parameter	Unit	RL	Test Result
		Trial 1	mg/kg	10	n.d.
T001	M002	Trial 2	mg/kg	10	-
		Average	mg/kg	10	-
	M003 +	Trial 1	mg/kg	10	n.d.
T002	M004 +	Trial 2	mg/kg	10	-
	M005	Average	mg/kg	10	-
		Trial 1	mg/kg	10	n.d.
T003	M006 + M007	l Irial 7		10	-
	IVIOU7	Average	mg/kg	10	-

**Abbreviation:** n.d. = not detected (< Reporting Limit)

RL = Reporting Limit

mg/kg = milligram per kilogram



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#### Remark:

\*Regulations on Cadmium

		Maximum Permissible Limit						
EU	Legislation	Plastic materials	Paint (wet state)	Paint on the painted articles	Paint (high zinc content)	Metal parts of jewellery and imitation jewellery articles and hair assessories		
EC	REACH regulation (EC) No. 1907/2006 Annex XVII Item 23 and its amendments (EC) No. 552/2009, (EU) No. 494/2011 and (EU) No. 835/2012	100mg/kg	N.D.	1000mg/kg	1000mg/kg	100mg/kg		

		Maximum Permissible Limit
Country	Legislation	Paint, plastic, plating/ coating of surface treatment
Germany	Germany Chemikalien- Verbotsverordnung - ChemVerbotsV, Anhang Abschnitt 18, Okt 1993	100mg/kg
Switzerland	Switzerland Chemikalien- Risikoreduktions-Verordnung- ChemRRV, 814.81, 18 May 2005	100mg/kg



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#### 7. Phthalates

Test Method: Organic solvent extraction, analyzed by GCMS

#### **Test Result:**

	Test No.	T001	T002	T003			
		Material No.	M002	M003 + M004 + M005	M006 + M007		
Test Parameter	CAS NO	Unit	RL	Regulatory Requirement	Result	Result	Result
Dibutyl phthalate (DBP)	84-74-2	%	0.005		n.d.	n.d.	n.d.
Benzylbutyl phthalate (BBP)	85-68-7	%	0.005		n.d.	n.d.	n.d.
Diethylhexyl phthalate (DEHP)	117-81-7	%	0.005		n.d.	n.d.	n.d.
Sum (DBP+BBP+DEHP)	-	%	NA	0.1	n.d.	n.d.	n.d.
Di-n-octyl phthalate (DNOP)	117-84-0	%	0.005		n.d.	n.d.	n.d.
Diisodecyl phthalate (DIDP)	26761-40-0, 68515-49-1	%	0.005		n.d.	n.d.	n.d.
Diisononyl phthalate (DINP)	28553-12-0, 68515-48-0	%	0.005		n.d.	n.d.	n.d.
Sum (DNOP+DIDP +DINP)	-	%	NA	0.1	n.d.	n.d.	n.d.

**Abbreviation:** n.d. = not detected (< RL)

RL = Reporting Limit NA = Not Applicable % = percentage

#### Remark:

\* Single components with an amount of below reporting limit were not considered by the calculation of the sum. In the case of all phthalates were not detected, the result is stated n.d..

\*\* REACH regulation (EC) No. 1907/2006 and amendment no. 552/2009 Annex XVII Item 51 (formerly known as 2005/84/EC) on BBP, DBP and DEHP and Item 52 (formerly known as 2005/84/EC) on DNOP, DIDP and DINP are employed.

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### 8.Packaging Waste (94/62/EC)

Test Method: Acid digestion, analyzed by ICP-OES

For Cr (VI) - EN 62321:2009

#### Result:

Test No.	Material No.	Test Parameter	Unit	RL	Regulatory Requirement	Result		
		Pb	mg/kg	10		n.d.		
				Cd	mg/kg	10	100 (total of	n.d.
T001	M010	Cr^	mg/kg	10	Pb, Cd, Cr(VI) and Hg)	n.d.		
		Cr (VI)	mg/kg	10		-		
		Hg	mg/kg	10		n.d.		

**Abbreviation:** n.d. = not detected (< Reporting Limit)

RL = Reporting Limit

mg/kg = milligram per kilogram

Pass = the sum of 4 elements is less than or equal to 100 mg/kg.

Fail = the sum of 4 elements is over 100 mg/kg.

Uncertain = the sum of 4 elements fell into the uncertainty range.

N.A = Not Applicable

#### Remark:

\*1 According to "European Parliament and Council Directive 94/62/EC of 20 December 1994"; the maximum permissible limit of the sum of the concentration of Lead, Cadmium, Mercury and Hexavalent Chromium is 100ppm.

Screening of total chromium is performed. If the result is in the inconclusive region, chromium VI content of plastics will be confirmed by EN 62321:2009, whilst that of metal will be confirmed by spot test.

A positive result of spot test means the presence of Cr(VI) in the material. A negative result means the absence of Cr(VI) in the material.



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### 9. Organotin Compounds (TBT, TPT, TOT, TCyT, TPrT, DBT and DOT)

Test Method: Organic solvent extraction, GCMS

Ref. to ISO 17353:2004

			Test No.	T001
			Material No.	M004 + M005 + M006
Test Parameter	Unit	RL	Regulatory Requirement	Result
TBT(Tributyltin)	%	0.01	0.1	n.d.
TPT(Triphenyltin)	%	0.01	0.1	n.d.
TOT(Trioctyltin)	%	0.01	0.1	n.d.
TcyT(Tricyclohexyltin)	%	0.01	0.1	n.d.
TPrT(Tripropyltin)	%	0.01	0.1	n.d.
Sum of tri-substituted organotins	%	NA	0.1	n.d.
DBT(Dibutyltin)	%	0.01	0.1	n.d.
DOT(Dioctyltin)	%	0.01	0.1	n.d.

**Abbreviation:** n.d. = not detected (< Reporting Limit)

RL = Reporting Limit % = percentage NA = Not Applicable



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#### Remark:

- \*1 Single components with an amount of <0.01% were not considered in the calculation of the sum. In the case of all five tri-substituted organotins were not detected, the result is stated n.d.
- \*2 The assessment for tri-substituted organotins is based on the sum of TBT, TPT, TOT, TCyT and TPrT only.
- According to REACH Regulation (EC) No. 1907/2006 Annex XVII Item 20 and amendment Commission Regulation (EU) No. 276/2010 (formerly known as 2009/425/EC), organostannic compounds shall not be used or be placed on the market-

Type of organostannic compounds	Maximum Permissible Limit	Implementation date
Tri-substituted organostannic compounds, e.g. tributyltin (TBT) compounds and triphenyltin (TPT) compounds	0.1 % by weight of tin	1 July 2010
Dibutyltin (DBT) compounds in mixtures and articles for supply to the general public	0.1 % by weight of tin	1 January 2012  The below products will not be applicable until 1 January 2015: - one-component and two-component room temperature vulcanisation sealants (RTV-1 and RTV-2 sealants) and adhesives, - paints and coatings containing DBT compounds as catalysts when applied on articles, - soft polyvinyl chloride (PVC) profiles whether by themselves or coextruded with hard PVC, - fabrics coated with PVC containing DBT compounds as stabilisers when intended for outdoor applications, - outdoor rainwater pipes, gutters and fittings, as well as covering material for roofing and facades
Dioctyltin (DOT) compounds  - textile articles intended to come into contact with the skin,  - gloves,  - footwear or part of footwear intended to come into contact with the skin,  - wall and floor coverings  - childcare articles,  - female hygiene products,  - nappies,  - two-component room temperature vulcanisation moulding kits (RTV-2 moulding kits)	0.1 % by weight of tin	1 January 2012



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### 10.Polycyclic aromatic hydrocarbons (PAHs)

Test Method: Organic solvent extraction, GCMS

	est No.	T001	T002	T003		
		Mate	rial No.	M002	M003 + M004 + M005	M006 + M007
Test Parameter	CAS NO	Unit	RL	Result	Result	Result
Benzo[a]anthracene (BaA)	56-55-3	mg/kg	0.2	n.d.	n.d.	n.d.
Benzo[a]pyrene(BaP)	50-32-8	mg/kg	0.2	n.d.	n.d.	n.d.
Benzo[b]fluoranthene (BbFA)	205-99-2	mg/kg	0.2	n.d.	n.d.	n.d.
Benzo[k]fluoranthene (BkFA)	207-08-9	mg/kg	0.2	n.d.	n.d.	n.d.
Benzo[j]fluoranthene (BjFA)	205-82-3	mg/kg	0.2	n.d.	n.d.	n.d.
Benzo[e]pyrene (BeP)	192-97-2	mg/kg	0.2	n.d.	n.d.	n.d.
Chrysene (CHR)	218-01-9	mg/kg	0.2	n.d.	n.d.	n.d.
Dibenzo[a,h]anthracene (DBAhA)	53-70-3	mg/kg	0.2	n.d.	n.d.	n.d.

**Abbreviation:** n.d. = Not Detected (< Reporting Limit)

RL = Reporting Limit NA = Not Applicable

mg/kg = milligram per kilogram

### Remark:

 Requirement according to REACH regulation (EC) No. 1907/2006 with Amendment No. 552/2009

Annex XVII Item No. 50 and (EU) No.1272/2013, are summarized as below:

Scope	Parameter	Unit	Maximum permissible limit				
Articles with direct as well as prolonged or short-term repetitive contact with the human skin or the oralcavity, under normal or reasonably foreseeable conditions of use ,made of plastic and rubber shall follow below limit:							
Such articles include amongst others:sport equipment such as bicycles, golf clubs, racquetshousehold utensils, trolleys, walking frames tools for domestic use clothing, footwear, gloves and sportswearwatch-straps, wrist-bands, masks, head-bands	Each of 8 listed PAHs	mg/kg	1				
Toys, including activity toys, and childcare articles	Each of 8 listed PAHs	mg/kg	0.5				



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### 11.ASTM F963-11: Mechanical and physical

#### Test result:

Test No:	T001
Material No:	M001
4. Safety requirements	
4.1 Material Quality (visual check)	PASS
4.7 Accessible edges	PASS
4.9 Accessible points	PASS
4.11 Nails and fasteners	PASS
4.12 Plastic film	PASS
5. Labeling requirements	
5.16 Promotional materials	PASS
6. Instructional literature	
6.1 Definition and description	PASS
7. Producer's markings	
7.1 Name and address of the producer or the distributor	PASS

### **Use and Abuse Tests:**

The submitted samples were undergone the use and abuse tests in accordance with FHSA 16 CFR and whichever is applicable the tested age grade.

Age Category	ImpactTest	Flexure Test	Torque Test	Tension Test	Compression Test
0-18 Months 16 CFR 1500.51	10 x 4.5 ft	120 Arc 30 Cycles 10 lbs	2 in-lbs	10 lbs	20 lbs
19-36 Months 16 CFR 1500.52	4 x 3 ft	120 Arc 30 Cycles 15 lbs	3 in-lbs	15 lbs	25 lbs
37-96 Months 16 CFR 1500.53	4 x 3 ft	120 Arc 30 Cycles 15 lbs	4 in-lbs	15 lbs	30 lbs

The clause and/or sub-clause would be indicated only in the test report whichever applicable. The comprehensive result report is available upon request.



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### 12.ASTM F963-11: Flammability on solids and soft toys

#### Test result:

	Test No:	T001
	Material No:	M001
4.2 Flammability on solic	ls and soft toys	PASS

The burning rate of the most severe part = IBE

Note: Maximum permissible burning rate = 0.1 Inch/sec.

**Abbreviation:** IBE = Ignite But Self-extinguish



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### 13.ASTM F963-11 Sect. 4.3.5.1, CPSIA Sect 101: Total lead content in paint and coating materials

Test Method: CPSC-CH-E1003-09.1 (Microwave method)

#### **Test result**

ASTM F963-11 Sect. 4.3.5.1	Total lead content in paint and coating materials	PASS
CPSIA Sect. 101	Total lead content in paint and coating materials	PASS

Test No.	Material No.	Test Parameter	Unit	RL	Regulatory Requirement	Test Result
T001	M002	Total Pb	ppm	10	90	n.d.

Abbreviation: n.d. = Not Detected (< RL)

RL = Reporting Limit ppm = parts per million

#### Remark:

Requirement according to Consumer Product Safety Improvement Act 2008 Public Law 110-314, section 101, is summarized below:

Effective Date	Maximum Permissible Limit Lead in paint and similar surface coating
1 year after enactment/ 14 Aug 2009	90 ppm

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### 14.ASTM F963-11 Sect. 4.3.5.2, CPSIA Sect. 101: Total lead content in substrate materials

Test Method: CPSC-CH-E1001-08.3 and CPSC-CH-E1002-08.3 (Microwave method)

#### **Test result**

ASTM F963-11 Sect. 4.3.5.2	Total lead content in substrate materials	PASS
CPSIA Sect. 101	Total lead content in substrate materials	PASS

Test No.	Material No.	Test Parameter	Unit	RL	Regulatory Requirement	Test Result
T001	M003 + M004 + M005	Total Pb	ppm	10	100	n.d.
T002	M006 + M007	Total Pb	ppm	10	100	n.d.

Abbreviation: n.d. = Not Detected (< RL)

RL = Reporting Limit ppm = parts per million

#### Remark:

Requirement according to Consumer Product Safety Improvement Act 2008 Public Law 110-314, section 101, is summarized below:

Effective Date	Maximum Permissible Limit Lead in accessible substrate materials
180 days after enactment/10 Feb 2009	600 ppm
1 year after enactment/14 Aug 2009	300 ppm
3 years after enactment/14 Aug 2011	100 ppm



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### 15.ASTM F963-11 Sect. 4.3.5.1 and 4.3.5.2 : Soluble heavy metal

Test Method: For paint and similar surface-coating materials: ASTM F963-08 Section 8.3 and ASTM

F963-11 Section 8.3.2 Method to Dissolve Soluble Matter for Surface Coatings

For substrate: ASTM F963-11 Section 8.3.5 Soluble Element Test Method for Substrate

Materials

This requirement applies to the coating and substrate materials which the sample weight

is greater than 10 mg

ASTM F963-11 Sect. 4.3.5.1 and 4.3.5.2	Soluble heavy metals	PASS
--	----------------------	------

#### **Test Result:**

		[mg/kg]									
		Sb	As	Ba	Cd	Cr	Pb	Hg	Se		
		Maximum Permissible Limit of Any Toy Materials except Modelling Clay									
Test No.	Material No.	60	25	1000	75	60	90	60	500		
Test No.			Maximum Permissible Limit of Modelling Clay								
		60	25	250	50	25	90	25	500		
			RL								
		2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5		
T001 (*1) (86mg)	M002	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.		
T002	M003	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.		
T003	M004	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.		
T004	M005	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.		
T005	M006	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.		
T006	M007	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.		

Abbreviation: n.d. = Not Detected (< RL)

RL = Reporting Limit

mg/kg = milligram per kilogram

#### Remark:

TÜV Rheinland Hong Kong Ltd. · 8F-10F., Goldin Financial Global Square, 7 Wang Tai Road, Kowloon Bay, Kowloon, Hong Kong Tel.: (852) 2192 1000 Fax: (852) 2192 1003 Mail: service-gc@tuv.com · Web: www.tuv.com

<sup>&</sup>lt;sup>\*1</sup> The weight of test portion marked (\*1) available was less than 100 mg, but greater than 10 mg, so results were calculated as if 100 mg of the sample were available.



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16.CPSIA Sect 108: Phthalates

CPSIA Sect. 108 Phthalates PASS

Test Method: CPSC-CH-C1001-09.3

### Result:

				Test No.	T001	T002	T003
	Material No.	M002	M003 + M004 + M005	M006 + M007			
Test Parameter	CAS NO	Unit	RL	Regulatory Requirement	Result	Result	Result
Dibutyl phthalate (DBP)	84-74-2	%	0.005	0.1	n.d.	n.d.	n.d.
Benzylbutyl phthalate (BBP)	85-68-7	%	0.005	0.1	n.d.	n.d.	n.d.
Diethylhexyl phthalate (DEHP)	117-81-7	%	0.005	0.1	n.d.	n.d.	n.d.
Di-n-octyl phthalate (DNOP)	117-84-0	%	0.005	0.1	n.d.	n.d.	n.d.
Diisodecyl phthalate (DIDP)	26761-40-0, 68515-49-1	%	0.005	0.1	n.d.	n.d.	n.d.
Diisononyl phthalate (DINP)	28553-12-0, 68515-48-0	%	0.005	0.1	n.d.	n.d.	n.d.

**Abbreviation:** Abbreviation n.d. = Not Detected (< RL)

RL = Reporting Limit % denotes percentage

#### Remark:

\* Requirement according to Consumer Product Safety Improvement Act 2008, section 108, is summarized below:

Date of Implementation	Parameter		Maximum Permissible Limit				
180 days after the date	Any children's toy or childcare article:						
of enactment/10 Feb 2009	Dibutyl phthalate (DBP), Benzylbutyl phthalate (BBP) or Diethylhexyl phthalate (DEHP)	%	0.1				
	Any children's toy that can be placed in a child's mouth or childcare article:						
	Di-n-octyl phthalate (DNOP), Diisodecyl phthalate (DIDP) or Diisononyl phthalate (DINP)	%	0.1				



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### 17.CPSIA Sect 103: Tracking label

#### **Test Result:**

	Test No:	T001
	Material No:	M001
Present On Packaging		Present
Present On Product		Not Applicable
Advertisement claims on safety standards		Absent



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#### 18.Packaging waste (TPCH)

Test Method: Acid digestion, analyzed by ICP-OES

For Cr (VI) - EN 62321:2009

#### Result:

Test No.	Material No.	Test Parameter	Unit	RL	Regulatory Requirement	Result
T001	M010	Pb	mg/kg	10		n.d.
		Cd	mg/kg 10 100 (total of	n.d.		
		Cr^	mg/kg	10	Pb, Cd, Cr(VI) and Hg)	n.d.
		Cr (VI)	mg/kg	10		-
		Hg	mg/kg	10		n.d.

**Abbreviation:** n.d. = not detected (< Reporting Limit)

RL = Reporting Limit

mg/kg = milligram per kilogram

Pass = the sum of 4 elements is less than or equal to 100 mg/kg.

Fail = the sum of 4 elements is over 100 mg/kg.

Uncertain = the sum of 4 elements fell into the uncertainty range.

N.A = Not Applicable

#### Remark:

According to the US Toxic in Packaging Clearinghouse (TPCH) - Model Toxics in Packaging Legislation, revised as Dec 2008; the maximum permissible limit of the sum of the concentration of Lead, Cadmium, Mercury and Hexavalent Chromium is 100ppm. For recycled materials, the maximum permissible limit for the 4 regulated metals is 200ppm.

Screening of total chromium is performed. If the result is in the inconclusive region, chromium VI content of plastics will be confirmed by EN 62321:2009, whilst that of metal will be confirmed by spot test.

A positive result of spot test means the presence of Cr(VI) in the material. A negative result means the absence of Cr(VI) in the material.

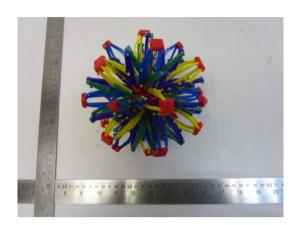
TÜV Rheinland Hong Kong Ltd. · 8F-10F., Goldin Financial Global Square, 7 Wang Tai Road, Kowloon Bay, Kowloon, Hong Kong Tel.: (852) 2192 1000 Fax: (852) 2192 1003 Mail: service-gc@tuv.com · Web: www.tuv.com

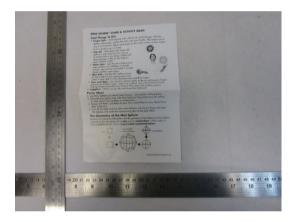


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## Sample Photos







- END -

#### General Terms and Conditions of Business of TÜV Rheinland in Greater China

- These General Terms and Conditions of Business of TUV Rheinland in Greater China is made between the client and one or more member entities of TUV Rheinland in Greater China as applicable as the case may be ("TŪV Rheinland"). 11
- The following terms and conditions apply to agreed services including consultancy services, information, deliveries and similar services as well as ancillary services and other secondary obligations provided within the scope of contract
- Any standard terms and conditions of the client of any nature shall not apply and shall hereby be expressly excluded. No standard contractual terms and conditions of the client shall form part of the contract even if TÜV Rheinland does not explicitly object to them.

#### Quotations

Unless otherwise agreed, all quotations submitted by  $T\bar{U}V$  Rheinland can be changed by  $T\bar{U}V$  Rheinland without notice prior to its acceptance and confirmation by the other party.

#### Coming into effect and duration of contracts

- The contract shall come into effect for the agreed terms upon the quotation letter of TÜV Rheinland or a separate contractual document being signed by both contracting parties, or upon the works requested by the client being carried out by TÜV Rheinland. If the client instructs TÜV Rheinland without receiving a quotation from TÜV Rheinland (quotation), TÜV Rheinland is, in its sole discretion, entitled to accept the order by giving written notice of such acceptance (including notice sent via electronic means) or by performing the requested
- The contract term starts upon the coming into effect of the contract in accordance with article 3.1 and shall continue for the term agreed in the contract.
- If the contract provides for an extension of the contract term, the contract term will be extended by the term provided for in the contract unless terminated in writing by either party with a sixweek notice prior to the end of the contractual term.

- The scope of the services shall be decided solely by a unanimous declaration issued by both parties. If no such declaration exists, then the written confirmation of order by TÜV Rheinland shall be decisive.
- The agreed services shall be performed in compliance with the regulations in force at the time the contract is entered into.
- TÜV Rheinland is entitled to determine, in its sole discretion, the The state discretion, in method and nature of the assessment unless otherwise agreed in writing or if mandatory provisions require a specific procedure to be followed.
- procedure to be followed.

  On execution of the work there shall be no simultaneous assumption of any guarantee of the correctness (proper quality) and working order of either tested or examined parts nor if the installation as a whole and its upstream and/or downstream processes, organisations, use and application in accordance with regulations, nor of the systems on which the installation is based. In particular, TÜV Rheinland shall assume no responsibility for the construction, selection of materials and assembly of installations examined, nor for their use and application in accordance with regulations unless these questions are expressly covered by the contract.
- In the case of inspection work, TÜV Rheinland shall not be responsible for the accuracy or checking of the safety programmes or safety regulations on which the inspections are based, unless otherwise expressly agreed in writing.

#### Performance periods/dates

- The contractually agreed periods/dates of performance are based on estimates of the work involved which are prepared in line with the details provided by the client. They shall only be binding if being confirmed as binding by TÜV Rheinland in
- If binding periods of performance have been agreed, these periods shall not commence until the client has submitted all required documents to TÜV Rheinland.
- Articles 5.1 and 5.2 also apply, even without express approval by the client, to all extensions of agreed periods/dates of performance not caused by TÜV Rheinland.

#### The client's obligation to cooperate

- The client shall guarantee that all cooperation required on its part, its agents or third parties will be provided in good time and at no cost to TÜV Rheinland.
- Design documents, supplies, auxiliary staff, etc. necessary for performance of the services shall be made available free of charge by the client. Moreover, collaborative action of the client must be undertaken in accordance with legal provisions, standards, safety regulations and accident prevention instructions.
- The client shall bear any additional cost incurred on account of me client state beat any additional costs incurred on according on work having to be redone or being delayed as a result of late, incorrect or incomplete information provided by or lack of proper cooperation from the client. Even where a fixed or maximum price is agreed, TÜV Rheinland shall be entitled to charge extra fees for such additional expensal be

#### Invoicing of work

- If the scope of performance is not laid down in writing when the order is placed, invoicing shall be based on costs actually incurred. If no price is agreed in writing, since it accordance with the price list of TUV Rheinland valid at the time of performance.
- Unless otherwise agreed, work shall be invoiced according to the progress of the work.
- If the execution of an order extends over more than one month and the value of the contract or the agreed fixed price exceeds £2,500.00 or equivalent value in local currency, TÜV Rheinland may demand payments on account or in instalments.

#### 8. Payment terms

- 8.1 All invoice amounts shall be due for payment without deduction on receipt of the invoice. No discounts shall be granted.
- Payments shall be made to the bank account of TÜIV Rheinland indicated on the invoice, stating the invoice and custome
- In cases of default of payment, TÜV Rheinland shall be entitled to claim default interest at the applicable short term loan interest rate publicly announced by a reputable commercial

- bank in the country where TÜV Rheinland is located. At the same time, TÜV Rheinland reserves the right to claim furthe
- Should the client default in payment of the invoice despite being granted a reasonable grace period, TÜV Rheinland shall be entitled to cancel the contract, withdraw the certificate, claim damages for non-performance and refuse to continue performance of the contract.
- The provisions set forth in article 8.4 shall also apply in cases involving returned cheques, cessation of payment, commencement of insolvency proceedings against the client's assets or cases in which the commencement of insolvency proceedings has been dismissed due to lack of assets.
- Objections to the invoices of TÜV Rheinland shall be submitted in writing within two weeks of receipt of the invoice
- TÜV Rheinland shall be entitled to demand appropriate advance
- payments.

  TÜV Rheinland shall be entitled to raise its fees at the beginning of a month if overheads and/or purchase costs have increased. In this case, TÜV Rheinland shall notify the client in writing of the rise in fees. This notification shall be issued one month prior to the date on which the rise in fees shall come into effect (period of notice of changes in fees). If the rise in fees remains under 5% per contractual year, the client shall not have the right to terminate the contract. If the rise in fees exceeds 5% per contractual year, the client shall be entitled to terminate the contract by the end of the period of notice of changes in fees. If the contract is not terminated, the changed fees shall be deemed to have been agreed upon by the time of the expiry of deemed to have been agreed upon by the time of the expiry of the notice period.
- Only legally established and undisputed claims may be offset against claims by TÜV Rheinland.

#### Acceptance

- Any part of the work ordered which is complete in itself may be presented by TÜV Rheinland for acceptance as an instal The client shall be obliged to accept it immediately.
- If the client fails to fulfil its acceptance obligation immediately, acceptance shall be deemed to have taken place 4 calendar weeks after completion of the work provided that TÜV Rheinland has specifically made the client aware of the aforementioned deadline upon completion of the work.

#### Confidentiality

- For the purpose of these terms and conditions, "confidential information" means all information, documents, images, drawings, know-how, data, samples and project documentation which one party (the "disclosing party") hands over, transfers or otherwise discloses to the other party (the "receiving party"). Confidential information also includes paper copies and electronic copies of such information.
- The disclosing party shall mark all confidential information disclosed in written form as confidential before passing it onto the receiving party. The same applies to confidential information transmitted by e-mail. If confidential information is disclosed orally, the receiving party shall be appropriately informed in advance and the disclosing party shall confirm in writing the confidentiality nature of the information within five working days of oral disclosure. Where the disclosing party shall to do so within the stipulated period, the receiving party shall to do so within the stipulated period, the receiving party shall be the party shall be the disclosing the party shall be the party shall be the party shall be the party shall be party. not take any confidentiality obligations hereunder towards such
- 10.3 All confidential information which the disclosing party transmits or otherwise discloses to the receiving party during performance of work by TÜV Rheinland:
  - a) may only be used by the receiving party for the purposes of performing the contract, unless expressly otherwise agreed in writing by the disclosing party;
  - b) may not be copied, distributed, published or otherwise disclosed by the receiving party, unless this is necessary for fulfilling the purpose of the contract or TÜV Rheinland is required to pass on confidential information, inspection reports or documentation to the government authorities, judicial court, accreditation bodies or third parties that are involved in the performance of the contract;
  - must be treated by the receiving party with the same level of confidentiality as the receiving party uses to protect its own confidential information, but never with a lesser level of confidentiality than that which is reasonably required.
- 10.4 The receiving party may disclose any confidential information The receiving party may disclose any confidential information received from the disclosing party only to those of its employees who need this information to perform the services required for the contract. The receiving party undertakes to oblige these employees to observe the same level of secrecy as set forth in this confidentiality clause.
- 10.5 Information for which the receiving party can furnish proof that:
  - a) it was generally known at the time of disclosure or has become general knowledge without violation of this confidentiality clause by the receiving party; or
  - b) it was disclosed to the receiving party by a third party entitled to disclose this information; or
  - the receiving party already possessed this information prior to disclosure by the disclosing party; or
  - the receiving party developed it itself, irrespective of disclosure by the disclosing party, shall not be deemed to constitute "confidential information" as defined in this confidentiality clause.
- confidentiality clause.

  10.6 All confidential information shall remain the property of the disclosing party. The receiving party hereby agrees to immediately (i) return all confidential information, including all copies, to the disclosing party, and/or (ii) on request by the disclosing party, to destroy all confidential information, including all copies, and confirm the destruction of this confidential information to the disclosing party in writing, at any time if so requested by the disclosing party in writing, at any without special request after termination or expiry of the contract. This does not extend to include reports and certificates prepared for the client solely for the purpose of fulfilling the obligations under the contract, which shall remain with the client. However, TUV Rheinland is entitled to make file copies of such reports, certificates and confidential information copies of such reports, certificates and confidential information that forms the basis for preparing these reports and certificates in order to evidence the correctness of its results and for general documentation purposes required by laws, regulations and the requirements of working procedures of TÜV Rheinland.
- From the start of the contract and for a period of three years after termination or expiry of the contract, the receiving party shall maintain strict secrecy of all confidential information and

shall not disclose this information to any third parties or use it

#### 11. Copyrights

- TÜV Rheinland shall retain all exclusive copyrights in the expert reports, test results, calculations, presentations etc. prepared by TÜV Rheinland.
- The client may only use such expert reports, test results, calculations, presentations etc. prepared within the scope of the contract for the contractually agreed purpose.
- The client may use test reports, test results, expert reports, etc. only complete and unshortened. Any publication or duplication for advertising purposes needs the prior written approval of for advertising TÜV Rheinland.

#### 12. Liability of TÜV Rheinland

- 12. Liability of TÜV Rheinland
  12.1. Irrespective of the legal basis, in the event of a breach of contractual obligations or tort, the liability of TÜV Rheinland for all damages, losses and reimbursement of expenses caused by TÜV Rheinland, its legal representatives and/or employees shall be limited to: (i) in the case of a contract with a fixed overall fee, three times the overall fee for the entire contract; (ii) in the case of a contract for annually recurring services, the agreed annual fee; (iii) in the case of a contract expressly charged on a time and material basis, a maximum of 20,000 Euro or equivalent amount in local currency; and (iv) in the case of a framework agreement that provides for the possibility of placing individual orders, three times of the fee for the individual order under which the damages or losses have occurred. Notwithstanding the above, in the event that the total occurred. Notwithstanding the above, in the event that the total and accumulated liability calculated according to the foregoing provisions exceeds 2.5 Million Euro or equivalent amount in local currency, the total and accumulated liability of TÜV Rheinland shall be only limited to and shall not exceed the said 2.5 Million Euro or equivalent amount in local currency
- 12.2 The limitation of liability according to article 12.1 above shall not apply to damages and/or losses caused by malice, intent or gross negligence on the part of TDV Rheinland or its vicarious agents. Such limitation shall not apply to damages for a person's death, physical injury or illness.
- person's death, physical injury or limess.

  In cases involving a fundamental breach of contract, TŪV Rheinland will be liable even where minor negligence is involved. For this purpose, a "fundamental breach" is breach of a material contractual obligation, the performance of which permits the due performance of the contract. Any claim for damages for a fundamental breach of contract shall be limited to the amount of damages reasonably foreseen as a possible consequence of such breach of contract at the time of the breach (resonably foreseenable (atmanges) unless any of the breach (reasonably foreseeable damages), unless any of the circumstances described in article 12.2 applies.
- 12.4 TÜV Rheinland shall not be liable for the acts of the personnel made available by the client to support TÜV Rheinland in the made available by the client to support IUV Rheiniland in the performance of its services under the contract, unless such personnel made available is regarded as vicarious agent of TÜV Rheinland. If TÜV Rheinland is not liable for the acts of the personnel made available by the client under the foregoing provision, the client shall indemnify TÜV Rheinland against any claims made by third parties arising from or in connection with such personnel's acts.
- 12.5 The limitation periods for claims for damages shall be based on
- 12.6 None of the provisions of this article 12 changes the burden of proof to the disadvantage of the client

#### Partial invalidity, written form, place of jurisdiction and

- 13.1 All amendments and supplements must be in writing in order to be effective. This also applies to amendments and supplements to this clause 13.1.
- 13.2 Should one or several of the provisions under the contract and/or these terms and conditions be or become ineffective, the contracting parties shall replace the invalid provision with a legally valid provision that comes closest to the content of the invalid provision in legal and commercial terms.
- Unless otherwise stipulated in the contract, the governing law of the contract and these terms and conditions shall be chosen following the rules as below:
  - a) if TÜV Rheinland in question is legally registered and existing in the People's Republic of China, the contracting parties hereby agree that the contract and these terms and conditions shall be governed by the laws of the People's Republic of China.
  - if TÜV Rheinland in question is legally registered and existing in Taiwan, the contracting parties hereby agree that the contract and these terms and conditions shall be governed by the laws of Taiwan.
  - c) if TÜV Rheinland in question is legally registered and existing in Hong Kong, the contracting parties hereby agree that the contract and these terms and conditions shall be governed by the laws of Hong Kong.
- Any dispute in connection with the contract and these terms and conditions or the execution thereof shall be settled friendly through negotiations.

Unless otherwise stipulated in the contract, if no settlement or no agreement in respect of the extension of the negotiation period can be reached within two months of the arising of the dispute, the dispute shall be submitted:

- in the case of TÜV Rheinland in guestion being legally a) in the case of 1 UV Rheinland in question being legally registered and existing in the People's Republic of China, to China International Economic and Trade Arbitration Commission (CIETAC) to be settled by arbitration under the Arbitration Rules of CIETAC in force when the arbitration is submitted. The arbitration shall take place in Beijing, Shanghai, Shenzhen or Chongqing as appropriately chosen by the claiming party.
- b) in the case of TŪV Rheinland in question being legally registered and existing in Taiwan, to Chinese Arbitration Association Taipei Branch to be arbitrated in accordance with its then current Rules of Arbitration. The arbitration shall take
- (c) in the case of TÜV Rheinland being legally registered and existing in Hong Kong, to Hong Kong International Arbitration Centre (HKIAC) to be settled by arbitration under the HKIAC Administered Arbitration Rules in force when the Notice of Arbitration is submitted in accordance with these rules. The arbitration shall take place in Hong Kong.

The decision of the relevant arbitration tribunal shall be final and binding on both parties. The arbitration fee shall be borne by the losing party.