

Test Report

Report No.: PTC18061324301C-EN01

Date: Jun.25, 2018

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Applicant: ZHUHAI SUNLU INDUSTRIAL CO., LTD.

Address: Sunlu Industrial Park, No. 38 Yongtian Road, Trade Logistics Centre Phase Two, Qianshan, Xiangzhou District, Zhuhai, Guangdong, China

The following merchandise was (were) submitted and identified by client as:

Sample Name: INTELLIGENT 3D PEN
Style No.: 300A
Color : Black
Qty of Sample Submitted: 2
Age Group for Testing: 8+
Application Specified
Age Group for Testing: 8+
Sample Received Date: Jun.15, 2018
Completed Date: Jun.25, 2018

Test Requested and Conclusion(s):

No.	Test Sample	Standard and Requirement	Conclusion(s)
1	Submitted sample	EN 71-1:2014 European Standard for Safety of Toys - Mechanical and Physical Properties	PASS
2	Submitted sample	EN 71-2:2011+A1:2014 European Standard for Safety of Toys - Flammability	PASS
3	Submitted sample	EN71-3:2013+A1:2014 European Standard for Safety of Toys - Migration of Certain Elements	PASS

Test Result(s): Please refer to next page(s).

Signed for and on Behalf of PTC



Raul Cheng / P & C Department General Manager
DongGuan Precise Testing and Certification Corp. Ltd.

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Test Result(s):

1) Mechanical and Physical Properties – EN 71-1:2014		
Section	Test Item	Assessment
4.1	Material cleanliness	PASS
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	Edges	PASS
4.8	Points and metallic wires	PASS
4.9	Protruding parts	NA
4.10	Parts moving against each other	NA
4.11	Mouth-actuated toys and other toys intended to be put in the mouth	NA
4.13	Cords of toy kites and other flying toys	NA
4.14	Enclosures	NA
4.15	Toys intended to bear the mass of a child	NA
4.16	Heavy immobile toys	NA
4.17	Projectiles	NA
4.18	Aquatic toys and inflatable toys	NA
4.19	Percussion caps specifically designed for use in toys and toys using percussion caps	NA
4.20	Acoustics	NA
4.21	Toys containing a non-electrical heat source	NA
4.22	Small balls	NA
4.23	Magnet	NA

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4.24	Yo-yo balls	NA
4.25	Toys attached to food	NA
5	Toys intended for children under 36 months	
5.1	General requirements	NA
5.2	Soft-filled toys and soft-filled parts of a toy	NA
5.3	Plastic sheeting	NA
5.4	Cords ,chains and electrical cables in toys	NA
5.5	Liquid-filled toys	NA
5.6	Speed limitation of electrically-driven ride-on toys	NA
5.7	Glass and porcelain	NA
5.8	Shape and size of certain toys	NA
5.10	Small balls	NA
5.11	Play figures	NA
5.12	Hemispheric-shape toys	NA
5.13	Suction cups	NA
5.14	Straps intended to be worn fully or partially around the neck	NA
6	Packaging	NR*
7	Warnings ,markings and instructions for use	
7.1	General	NR*
7.2	Toys not intended for children under 36 months	NR*
7.3	Latex balloons	NR*
7.4	Aquatic toys	NR*
7.5	Functional toys	NR*
7.6	Hazardous sharp functional edges and points	NR*
7.7	Projectiles	NR*
7.8	Imitation protective masks and helmets	NR*

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7.9	Toy kites	NR*
7.10	Roller skates, inline skates, skateboards and certain other ride-on toys	NR*
7.11	Toys intended to be attached to or strung across a cradle, cot, or perambulator	NR*
7.12	Liquid-filled teethers	NR*
7.13	Percussion caps specifically designed for use in toys	NR*
7.14	Acoustics	NR*
7.15	Toy bicycles	NR*
7.16	Toys intended to bear the mass of a child	NR*
7.17	Toys comprising monofilament fibres	NR*
7.18	Toy scooters	NR*
7.19	Rocking horses and similar toys	NR*
7.20	Magnetic/electrical experimental sets	NR*
7.21	Toys with electrical cables exceeding 300 mm in length	NR*
7.22	Toys with cords or chains intended for children of 18 months and over but under 36 months	NR*

- Note:
1. NA = Not Applicable
 2. NR = Not Requested
 3. "*" = Per client's requirement, the packaging was not evaluated.

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Test Result(s):

2) Flammability – EN 71-2:2011+A1:2014

Section	Test Item	Assessment
4.1	General requirements	PASS
4.2	Toys to be worn on the head	NA
4.3	Toys disguise costumes and toys intended to worn by a child in play	NA
4.4	Toys intended to be entered by a child	NA
4.5	Soft-filled toys	NA

Note: NA = Not Applicable

3) Migration of Certain Elements

Method: With reference to EN71-3:2013+A1: 2014, analyzed by Inductively Coupled Plasma Optical Emission Spectroscopy (ICP-OES), Gas Chromatograph-Mass Spectrometry (GC-MS) and ion chromatograph .

Substance	RL (mg/kg)	Result (mg/kg)				
		1	2	3	4	5
Aluminium (Al)	5.0	11	12	119	20	71
Antimony (Sb)	5.0	N.D.	N.D.	N.D.	N.D.	N.D.
Arsenic (As)	0.5	N.D.	N.D.	N.D.	N.D.	N.D.
Barium (Ba)	5.0	N.D.	N.D.	N.D.	N.D.	N.D.
Boron (B)	5.0	N.D.	N.D.	N.D.	N.D.	17
Cadmium (Cd)	0.2	N.D.	N.D.	N.D.	N.D.	N.D.
Chromium(III) (Cr ³⁺)	2.0	N.D.	N.D.	N.D.	N.D.	N.D.
Chromium(VI) (Cr ⁶⁺)	0.2	N.D.	N.D.	N.D.	N.D.	N.D.
Cobalt (Co)	1.0	N.D.	N.D.	N.D.	N.D.	N.D.
Copper (Cu)	5.0	18	13	28	14	10
Lead (Pb)	2.0	N.D.	N.D.	N.D.	15	N.D.
Manganese (Mn)	5.0	N.D.	N.D.	N.D.	N.D.	N.D.
Mercury (Hg)	1.0	N.D.	N.D.	N.D.	N.D.	N.D.
Nickel (Ni)	5.0	N.D.	N.D.	N.D.	N.D.	N.D.
Selenium (Se)	5.0	N.D.	N.D.	N.D.	N.D.	N.D.
Strontium (Sr)	5.0	N.D.	N.D.	N.D.	N.D.	N.D.

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Tin (Sn)	5.0	N.D.	N.D.	N.D.	N.D.	N.D.
Organic tin☆	0.1	N.D.	N.D.	N.D.	N.D.	N.D.
Zinc (Zn)	5.0	15	24	53	30	28
Conclusion		PASS	PASS	PASS	PASS	PASS

- Note:**
1. mg/kg = part per million (ppm).
 2. N.D. = Not Detected (< RL).
 3. RL = Report Limit.
 4. "☆" = The migration of organic tin is expressed as tributyltin.

The table of Migration Elements limit:

Substance	Limit (mg/kg)		
	Dry, brittle, powder-like or pliable toy material	Liquid or sticky toy material	Scraped-off toy material
Aluminium (Al)	5625	1406	70000
Antimony (Sb)	45	11.3	560
Arsenic (As)	3.8	0.9	47
Barium (Ba)	1500	375	18750
Boron (B)	1200	300	15000
Cadmium (Cd)	1.3	0.3	17
Chromium(III) (Cr ³⁺)	37.5	9.4	460
Chromium(VI) (Cr ⁶⁺)	0.02	0.005	0.2
Cobalt (Co)	10.5	2.6	130
Copper (Cu)	622.5	156	7700
Lead (Pb)	13.5	3.4	160
Lead (Pb)*	2.0	0.5	23
Manganese (Mn)	1200	300	15000
Mercury (Hg)	7.5	1.9	94
Nickel (Ni)	75	18.8	930
Selenium (Se)	37.5	9.4	460
Strontium (Sr)	4500	1125	56000
Tin (Sn)	15000	3750	180000

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Organic tin◇	0.9	0.2	12
Zinc (Zn)	3750	938	46000
<p>Note:</p> <p>“◇” = Organic tin include Methyl tin, Butyltin, Dibutyl tin, Tributyl tin, Tetrabutyl tin, n-Octyl tin, Di-n-octyl tin, Di-n-propyl tin, Diphenyl tin, Triphenyl tin.</p> <p>* = Those limits will come into force on 28 October 2018.</p>			

Test Material List		
The following materials apply only to the samples submitted for chemical testing.		
Material No.	Description	Location
1	Gray plastic	Pen
2	Dumb black plastic	Pen
3	White ceramic	Pen
4	Transparent plastic with black coating	Pen
5	Black plastic	Pen

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Photo(s) of Sample:



End of Report

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