

TEST REPORT

Company Name Landu Innovations Technology Co., Ltd.
Shown on Report:
Address: B1302, Building 3, Phase 1, Tianan Industrial Park, Bantian Street,
Longgang District, Shenzhen City, 518129, China

The following sample(s) was/were submitted and identified on behalf of the client as:

Sample Name: 3D Printing Filament
Sample Model: PLA Basic,Hyper PLA,PLA,PLA+,PLA Max,Hyper PLA+,PLA
Matte,PLA Luminous,PLA Chameleon,PLA Marble,PLA
Silk,PLA CF,PLA Wood,PETG,PLA Silk Rainbow
Trademark: LANDU
Manufacturer: Landu Innovations Technology Co., Ltd.
Address: B1302, Building 3, Phase 1, Tianan Industrial Park, Bantian
Street, Longgang District, Shenzhen City, 518129, China
Factory: Hongshengda 3D Technology Co., Ltd.
Address: Minghui Technology Park, No. 426 Qingfeng Road, Qingxi
Town, Dongguan City, Guangdong Province
Sample Received Date: Jun.27, 2025
Test Period: Jun.27, 2025 - Jul.01, 2025
Date of Issue: Jul.02, 2025

ISSUED BY:



GUANGDONG TI GROUP TESTING CO., LTD.

Editor:

KIKI



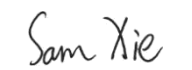
Checked by:

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Approved by:

Sam Xie



1. Test Requested and Test Conclusion:

Based on the performed tests on specified material(s) or submitted sample(s).

Test items	Conclusion
Migration of Certain Elements - EN 71-3:2019+A2:2024, "European Standard, Safety of Toys"	PASS

2. Test Result(s)

2.1 Migration of Certain Elements

Test Method: With reference to EN 71-3:2019+A2:2024 Annex E & F & G, analysis was performed by Inductively Coupled Plasma Optical Emission Spectrometer (ICP-OES)/Liquid Chromatograph Inductively Coupled Plasma Mass Spectrometer (LC-ICP-MS)/ Inductively Coupled Plasma Mass Spectrometer (ICP-MS).

Test Item	Limit (mg/kg)	RL (mg/kg)	Result(mg/kg)				
	Category III		1	2	3	4	5
Antimony (Sb)	560	5.0	N.D.	N.D.	N.D.	N.D.	N.D.
Arsenic (As)	47	2.5	N.D.	N.D.	N.D.	N.D.	N.D.
Barium (Ba)	18750	5.0	N.D.	N.D.	N.D.	N.D.	N.D.
Boron (B)	15000	5.0	N.D.	N.D.	N.D.	N.D.	N.D.
Cadmium (Cd)	17	2.0	N.D.	N.D.	N.D.	N.D.	N.D.
Chromium(III) (Cr ³⁺) ^{#1}	460	2.0	N.D.	N.D.	N.D.	N.D.	N.D.
Chromium(VI) (Cr ⁶⁺)	0.053	0.01	N.D.	N.D.	N.D.	N.D.	N.D.
Cobalt (Co)	130	5.0	N.D.	N.D.	N.D.	N.D.	N.D.
Copper (Cu)	7700	5.0	N.D.	N.D.	N.D.	N.D.	N.D.
Lead (Pb)	23	5.0	N.D.	N.D.	N.D.	N.D.	N.D.
Manganese (Mn)	15000	5.0	N.D.	N.D.	N.D.	N.D.	N.D.
Mercury (Hg)	94	5.0	N.D.	N.D.	N.D.	N.D.	N.D.
Nickel (Ni)	930	5.0	N.D.	N.D.	N.D.	N.D.	N.D.
Selenium (Se)	460	5.0	N.D.	N.D.	N.D.	N.D.	N.D.
Strontium (Sr)	56000	5.0	N.D.	N.D.	N.D.	N.D.	N.D.
Tin (Sn)	180000	2.5	N.D.	N.D.	N.D.	N.D.	N.D.
Organic tin ^{#2}	12	2.0	N.D.	N.D.	N.D.	N.D.	N.D.
Aluminium (Al)	28130	5.0	N.D.	N.D.	N.D.	N.D.	N.D.
Zinc (Zn)	46000	5.0	N.D.	N.D.	N.D.	N.D.	N.D.
Conclusion (s)			PASS	PASS	PASS	PASS	PASS

Test Item	Limit (mg/kg)	RL (mg/kg)	Result(mg/kg)				
	Category III		6	7	8	9	10
Antimony (Sb)	560	5.0	N.D.	N.D.	N.D.	N.D.	N.D.
Arsenic (As)	47	2.5	N.D.	N.D.	N.D.	N.D.	N.D.
Barium (Ba)	18750	5.0	N.D.	N.D.	N.D.	N.D.	N.D.
Boron (B)	15000	5.0	N.D.	N.D.	N.D.	N.D.	N.D.
Cadmium (Cd)	17	2.0	N.D.	N.D.	N.D.	N.D.	N.D.
Chromium(III) (Cr ³⁺) ^{#1}	460	2.0	N.D.	N.D.	N.D.	N.D.	N.D.
Chromium(VI) (Cr ⁶⁺)	0.053	0.01	N.D.	N.D.	N.D.	N.D.	N.D.
Cobalt (Co)	130	5.0	N.D.	N.D.	N.D.	N.D.	N.D.
Copper (Cu)	7700	5.0	N.D.	N.D.	N.D.	N.D.	N.D.
Lead (Pb)	23	5.0	N.D.	N.D.	N.D.	N.D.	N.D.
Manganese (Mn)	15000	5.0	N.D.	N.D.	N.D.	N.D.	N.D.
Mercury (Hg)	94	5.0	N.D.	N.D.	N.D.	N.D.	N.D.
Nickel (Ni)	930	5.0	N.D.	N.D.	N.D.	N.D.	N.D.
Selenium (Se)	460	5.0	N.D.	N.D.	N.D.	N.D.	N.D.
Strontium (Sr)	56000	5.0	N.D.	N.D.	N.D.	N.D.	N.D.
Tin (Sn)	180000	2.5	N.D.	N.D.	N.D.	N.D.	N.D.
Organic tin ^{#2}	12	2.0	N.D.	N.D.	N.D.	N.D.	N.D.
Aluminium (Al)	28130	5.0	N.D.	N.D.	N.D.	N.D.	N.D.
Zinc (Zn)	46000	5.0	N.D.	N.D.	N.D.	N.D.	N.D.
Conclusion (s)			PASS	PASS	PASS	PASS	PASS

Test Item	Limit (mg/kg)	RL (mg/kg)	Result(mg/kg)				
	Category III		11	12	13	14	15
Antimony (Sb)	560	5.0	N.D.	N.D.	N.D.	N.D.	N.D.
Arsenic (As)	47	2.5	N.D.	N.D.	N.D.	N.D.	N.D.
Barium (Ba)	18750	5.0	N.D.	N.D.	N.D.	N.D.	N.D.
Boron (B)	15000	5.0	N.D.	N.D.	N.D.	N.D.	N.D.
Cadmium (Cd)	17	2.0	N.D.	N.D.	N.D.	N.D.	N.D.
Chromium(III) (Cr ³⁺) ^{#1}	460	2.0	N.D.	N.D.	N.D.	N.D.	N.D.
Chromium(VI) (Cr ⁶⁺)	0.053	0.01	N.D.	N.D.	N.D.	N.D.	N.D.
Cobalt (Co)	130	5.0	N.D.	N.D.	N.D.	N.D.	N.D.
Copper (Cu)	7700	5.0	N.D.	N.D.	N.D.	N.D.	N.D.
Lead (Pb)	23	5.0	N.D.	N.D.	N.D.	N.D.	N.D.
Manganese (Mn)	15000	5.0	N.D.	N.D.	N.D.	N.D.	N.D.
Mercury (Hg)	94	5.0	N.D.	N.D.	N.D.	N.D.	N.D.
Nickel (Ni)	930	5.0	N.D.	N.D.	N.D.	N.D.	N.D.
Selenium (Se)	460	5.0	N.D.	N.D.	N.D.	N.D.	N.D.
Strontium (Sr)	56000	5.0	N.D.	N.D.	N.D.	N.D.	N.D.
Tin (Sn)	180000	2.5	N.D.	N.D.	N.D.	N.D.	N.D.
Organic tin ^{#2}	12	2.0	N.D.	N.D.	N.D.	N.D.	N.D.
Aluminium (Al)	28130	5.0	N.D.	N.D.	N.D.	N.D.	N.D.
Zinc (Zn)	46000	5.0	N.D.	N.D.	N.D.	N.D.	N.D.
Conclusion (s)			PASS	PASS	PASS	PASS	PASS

Note: 1. mg/kg = milligram per kilogram.

2. RL = Report Limit.

3. N.D. = Not Detected (< RL).

4. #1= The migration value of Chromium (III) were calculated by the migration value of chromium subtracted the migration value of chromium (VI).

5. #2 = The value of organic tin was calculated by summation of the ten organic tin value as following: Organic tin include Methyl tin, Butyltin, Dibutyl tin, Tributyl tin, Tetra-butyl tin, n-Octyl tin, Di-n-octyl tin, Di-n-propyl tin, Diphenyl tin, Triphenyl tin.

Migration limits from toy materials:

Substance	Category I		Category II		Category III	
	Limit (mg/kg)	RL (mg/kg)	Limit (mg/kg)	RL (mg/kg)	Limit (mg/kg)	RL (mg/kg)
Antimony (Sb)	45	1.0	11.3	1.0	560	5.0
Arsenic (As)	3.8	0.1	0.9	0.1	47	2.5
Barium (Ba)	1500	5.0	375	5.0	18750	5.0
Boron (B)	1200	5.0	300	5.0	15000	5.0
Cadmium (Cd)	1.3	0.05	0.3	0.05	17	2.0
Chromium(III) (Cr ³⁺)	37.5	1.0	9.4	0.5	460	2.0
Chromium(VI) (Cr ⁶⁺)	0.02	0.001	0.005	0.001	0.053	0.01
Cobalt (Co)	10.5	0.5	2.6	0.1	130	5.0
Copper (Cu)	622.5	5.0	156	5.0	7700	5.0
Lead (Pb)	2.0	0.1	0.5	0.05	23	5.0
Manganese (Mn)	1200	5.0	300	5.0	15000	5.0
Mercury (Hg)	7.5	0.1	1.9	0.1	94	5.0
Nickel (Ni)	75	1.0	18.8	0.5	930	5.0
Selenium (Se)	37.5	1.0	9.4	1.0	460	5.0
Strontium (Sr)	4500	5.0	1125	5.0	56000	5.0
Tin (Sn)	15000	5.0	3750	5.0	180000	2.5
*Organic tin	0.9	0.01	0.2	0.05	12	2.0
Aluminium (Al)	2250	5.0	560	5.0	28130	5.0
Zinc (Zn)	3750	5.0	938	5.0	46000	5.0

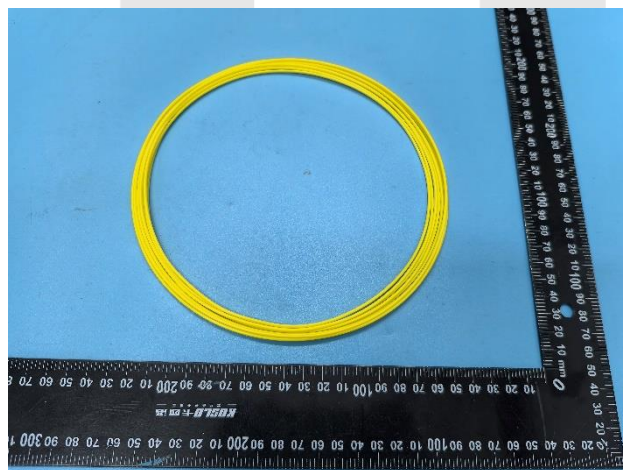
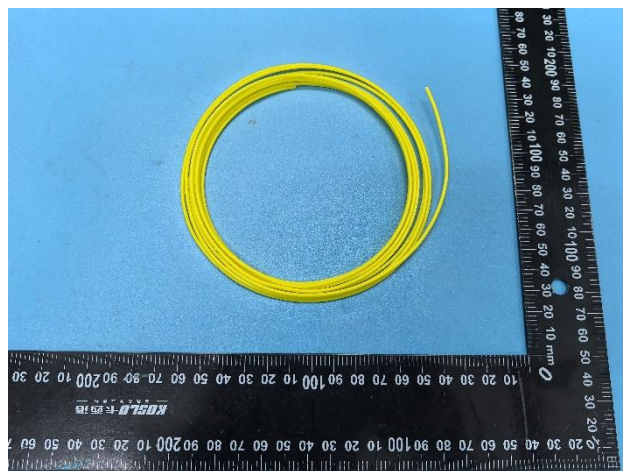
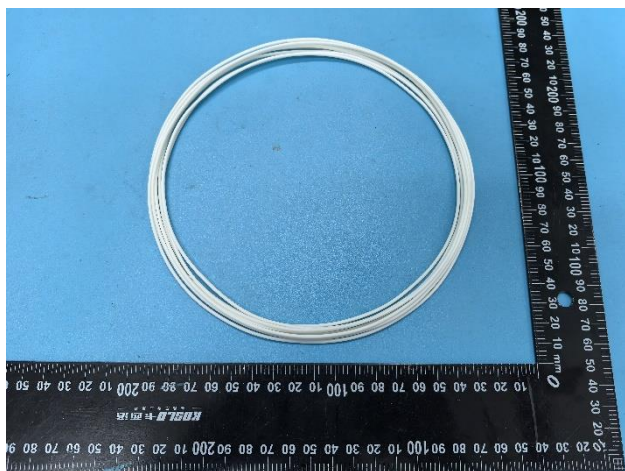
1. “*” = Organic tin include Methyl tin, Butyltin, Dibutyl tin, Tributyl tin, Tetra-butyl tin, n-Octyl tin, Di-n-octyl tin, Di-n-propyl tin, Diphenyl tin, Triphenyl tin.
2. RL = Report Limit.
3. Specific element migration requirements include the following toy categories:
 - Category I: Dry, brittle, powdery, or flexible materials
It includes solid toy materials that can release powdery substances during play and semi solid toy materials that can remain on the hands.
(This type of material is easily ingested into the body, and exposure to this type of material on the hands increases the risk of oral contact.)
 - Category II: Liquid or viscous materials.
(i.e., liquid or sticky toy materials that can be ingested or come into contact with the skin during play)
 - Category III: Material that can be scraped off.
(That is, solid toy materials (whether coated or not) can be ingested through biting, tooth scraping, sucking, or licking.).

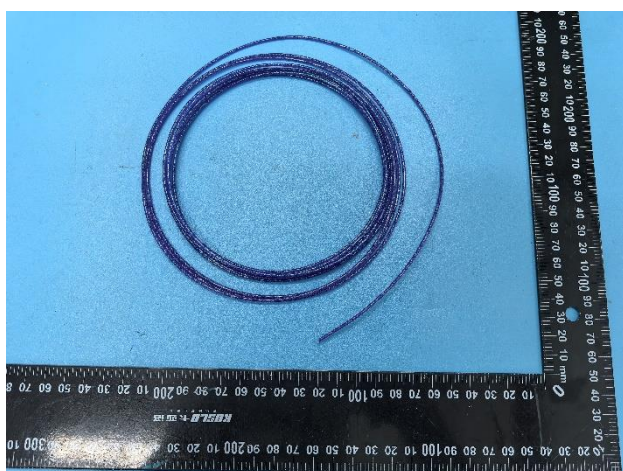
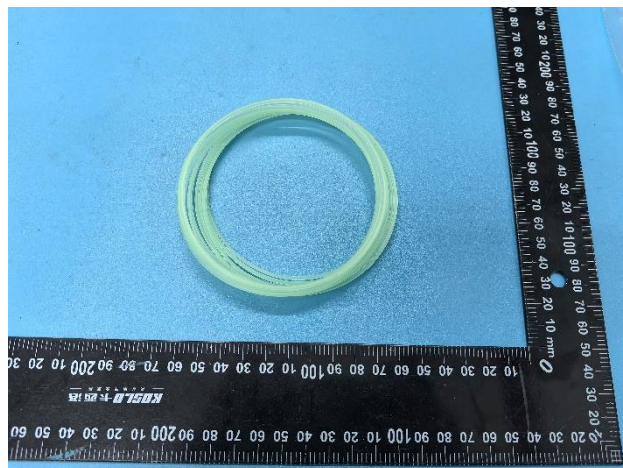
3. Sample description

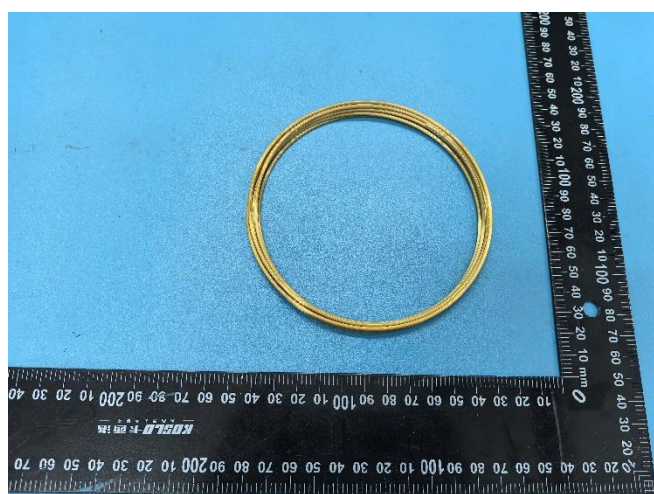
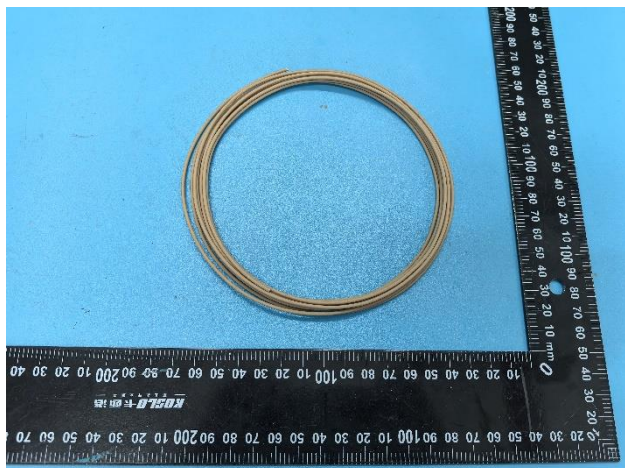
Material No.	Description
1	Milk white plastic(PLA Basic)
2	Yellow plastic(Hyper PLA)
3	Black plastic(PLA)
4	Brown plastic(PLA+)
5	Red plastic(PLA Max)
6	Yellow plastic(Hyper PLA+)
7	Black plastic(PLA Matte)
8	Transparent green plastic(PLA Luminous)
9	Violet blue plastic(PLA Chameleon)
10	Marble white plastic(PLA Marble)
11	Dark yellow plastic(PLA Silk)
12	Black plastic(PLA CF)
13	Khaki plastic(PLA Wood)
14	Gloss black plastic(PETG)
15	Beige plastic(PLA Silk Rainbow)



Photo of the Sample







Remark: This report replaces the original report COBO25061141, which has been invalidated.

Statement

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End of Report

