

## Test Report

Number: LCZC16060564-E

Date: Jan. 23, 2024

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Applicant : ZHONG SHAN LIN-YANG PLASTICS CO., LTD

Address : No.22, YiXian Road, HuoJu Development Zone, ZhongShan City, Guangdong Province, China.

Date of Received : Jan. 17, 2024

Testing Period : From Jan. 17, 2024 to Jan. 23, 2024

Report on the submitted sample said to be:

Item Name : PVC

### Sample No.

01

### Test Request

European Directive 2009/48/EC on the safety of toys and It's  
Amendment Directives, Category III — Migration of Certain Elements

### Conclusion

Pass

Please see the next page(s) for details.

Signed for and on behalf of **LCTECH**

Approved by



Robert Luo  
Technical Manager

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LCTECH (ZhongShan) Testing Service Co., Ltd  
2/F., Technology and Enterprise Development Center, Guangyuan Road, Xiaolan, Guangdong, China, 528415  
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## 1 TEST RESULT

### 1.1 Migration of Certain Elements — European Directive 2009/48/EC on the safety of toys and It's Amendment Directives

Test Method: EN 71-3:2013+A1:2014,

- Chromium (VI): determined by UV-VIS spectrophotometer.
- Organic tin: determined by Gas Chromatographic-Mass Spectrometric (GC-MS).
- Other elements: determined by Inductively Coupled Plasma Optical Emission Spectrometer (ICP-OES)

Test item (Migration)		Test result (mg/kg)	Maximum Limit (mg/kg)
		01	Category III
1	Aluminium (Al)	ND	70000
2	Antimony (Sb)	ND	560
3	Arsenic (As)	ND	47
4	Barium (Ba)	ND	18750
5	Boron (B)	ND	15000
6	Cadmium (Cd)	ND	17
7	Chromium (III) <sup>#1</sup>	ND	460
8	Chromium (VI)	ND	0.2
9	Cobalt (Co)	ND	130
10	Copper (Cu)	ND	7700
11	Lead (Pb)	ND	160
12	Manganese (Mn)	ND	15000
13	Mercury (Hg)	ND	94
14	Nickel (Ni)	ND	930
15	Selenium (Se)	ND	460
16	Strontium (Sr)	ND	56000
17	Tin (Sn)	ND	180000
18	Organic tin <sup>#2</sup>	ND	12
19	Zinc (Zn)	ND	46000

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Remark:

- ND = Not Detected (less than Report Limit).
- Report Limit = 0.1 mg/kg for Organic tin, 0.2 mg/kg for Chromium (VI), 5 mg/kg for others.
- mg/kg = 0.0001% = ppm = parts per million.
- #1= The migration value of Chromium (III) were calculated by the migration value of chromium subtracted the migration value of chromium (VI).
- #2 = The value of organic tin was calculated by summation of the ten organic tin value as following:

No.	Test item (Migration)	Abbreviation	Test result (mg/kg)
			01
01	Methyltin	MeT	ND
02	Dipropyltin	DProT	ND
03	Butyltin	BuT	ND
04	Dibutyltin	DBT	ND
05	Tributyltin	TBT	ND
06	Tetrabutyltin	TeBT	ND
07	Monooctyltin	MOT	ND
08	Diocyltin	DOT	ND
09	Diphenyltin	DPhT	ND
10	Triphenyltin	TPhT	ND
Sum of above		--	ND

Remark:

- The test result per Organic tin was expressed as TBT cation.

- Requirements are included for the migration from the following toy categories:

--**Category I:** Dry, brittle, powder like or pliable.

These materials include solid toy material from which powder-like material is released during playing and semi-solid materials that may also leave residues on the hands during play. The material can be ingested. Contamination of the hands with the material contributes to enhanced oral exposure.

--**Category II:** Liquid or sticky.

These materials include fluid or viscous toy material, which can be ingested and/or to which dermal exposure occurs during playing.

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--Category III: Scraped-off.

These materials include solid toy material with or without a coating, which can be ingested as a result of biting, tooth scraping, sucking or licking.

- **Maximum Limits of Migration of Certain Elements were quoted from European Directive 2009/48/EC on the safety of toys and It's Amendment Directives :**

Test item (Migration)	Maximum Limit (mg/kg)		
	Category I	Category II	Category III
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)	37.5	9.4	460
Chromium (VI)	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
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
Organic tin	0.9	0.2	12
Zinc (Zn)	3750	938	46000

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### 2 TESTED COMPONENTS

01 White plastic

#### Photo of the Sample



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End of Report