

JOYGROUP INVESTMENTS LIMITED

FACTORY: JOYFUL CO., LTD

ROAD 5, TAM PHUOC INDUSTRIAL ZONE, TAM PHUOC COMMUNE, BIEN HOA CITY, DONG NAI PROVINCE, VIETNAM

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

SGS Job No. : VNHL1712014697HG

Sample Description : NORMAL DECORATIVE PVC (FOIL, SHEET & EDGING)

Sample Receiving Date : DECEMBER 13, 2017

Final confirmed Date : DECEMBER 14, 2017

Testing Period : DECEMBER 14, 2017 TO DECEMBER 19, 2017

Test Requested : PLEASE REFER TO THE RESULT SUMMARY.

Test Results : PLEASE REFER TO NEXT PAGE(S).

Result Summary :

Test Requested	Conclusion
EN71-3: 2013+A1:2014 – Migration of certain elements	Pass/See Results

Signed for and on behalf of
SGS Vietnam LTD



Wong Cho Wing
 Hardline and E&E Lab Manager

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Test results:

Sample description: 1. GREY PVC

EN71-3: 2013 + A1:2014 – Migration of certain elements:

Category III: Scrapped-off toy material

Method: With reference to EN71-3:2013+A1:2014. Analysis of general elements was performed by ICP-OES. Chromium (III) was obtained by calculation, chromium (VI) was analysed by UV/Vis

Test Item	Result (mg/kg)		Reporting Limit (mg/kg)	Permissible Limit (mg/kg)
	1			
Mass of trace amount (mg)	--		--	--
Soluble Aluminium (Al)	ND		50	70,000
Soluble Antimony (Sb)	ND		10	560
Soluble Arsenic (As)	ND		10	47
Soluble Barium (Ba)	ND		50	18,750
Soluble Boron (B)	ND		50	15,000
Soluble Cadmium (Cd)	ND		5	17
Soluble Chromium (Cr)	0.3		0.15	--
Soluble Chromium (III) [#] (Cr (III))	-		1	460
Soluble Chromium (VI) [#] (Cr (VI))	-		0.18	0.2
Soluble Cobalt (Co)	ND		10	130
Soluble Copper (Cu)	ND		50	7,700
Soluble Lead (Pb)	ND		10	160
Soluble Manganese (Mn)	ND		50	15,000
Soluble Mercury (Hg)	ND		10	94
Soluble Nickel (Ni)	ND		10	930
Soluble Selenium (Se)	ND		10	460
Soluble Strontium (Sr)	ND		50	56,000
Soluble Tin (Sn)	9		4.9	180,000
Soluble Organic Tin [^]	4.43		--	12
Soluble Zinc (Zn)	ND		50	46,000

- Note :
- mg/kg = milligram per kilogram
 - ND = Not Detected
 - 1% = 10000 mg/kg = 10000 ppm
 - [#] Confirmation test of soluble chromium (III) & chromium (VI) is not required in case of soluble chromium does not exceed their requirements as specified in EN71-3: 2013+A1:2014.
 - [^] Confirmation test of soluble organic tin is not required in case of soluble tin, after conversion, does not exceed the soluble organic tin requirement as specified in EN71-3: 2013+A1:2014.

Remark: These tests were performed by SGS Vietnam's Chemical lab

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Photo appendix



REPORT RESULTS REFER TO SUBMITTED SAMPLE (S) ONLY

*****End of Report*****

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