

TEST REPORT

Applicant: NAKAI INDUSTRIAL CO., LTD.
KYOTO-OMIYA BLDG 3F
394, OSAKACHO
KARASUMA-DORI GOJO-SAGARU
SHIMOGYO-KU,
KYOTO 600-8177, JAPAN
Attn: MR. TOSHIKAZU SAITO

Number: HKGH0284695004

Date: Mar 18, 2022

Sample and Information provided by customer :
Item Name : **HOT STAMPING FOIL**
Item No. : **A23, A23(N)**
Quantity : 1 piece
Country of Origin : Japan

For and on behalf of :
Intertek Testing Services HK Ltd.



Cindy I.K. Chan
Vice President



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Conclusion:

The submitted sample was tested under the following requirements requested by the applicant, subject to the information stated in the remark and attached page(s) for details :

<u>Requirement</u>	<u>Result</u>
(1) ASTM F963-17 - Soluble heavy elements test ∞	Pass
(2) ASTM F963-17 - Total Lead content	Pass
(3) U.S. Consumer Product Safety Improvement Act 2008 Title I Section 101 - Total Lead content in non-surface coating materials (substrate)	Pass
(4) U.S. CFR Title 16 (CPSC Regulations) - Part 1303 - Total Lead content in surface coating	Pass
U.S. Consumer Product Safety Improvement Act 2008 Title I Section 101 - Total Lead content in surface coating	Pass
(5) US CPSC 16 CFR Part 1307 Prohibition of Children’s Toys and Child Care Articles Containing Specified Phthalates - Phthalate content	Pass
(6) Model Toxics in Packaging Legislation (packaging materials) - Toxic elements test	Pass
(7) Canada Consumer Product Safety Act Toys Regulations SOR/2011-17 section 23 with amendments SOR/2016-195 - Toxic elements test	Pass

Decision Rule(s):

When a statement of conformity to a specification or standard is provided on test report, the decision rule shall be applied. For details, please refer to Intertek’s “Decision Rule Document” and is available on Intertek’s website. <https://intertekhk.grd.by/decision-rule-doc>.
If decision rule already inhaled in the requested specification or standard, Intertek’s “Decision Rule Document” is not applicable and indication of “∞” was shown as above table.



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(1) Heavy Elements Analysis

Test Method : Acid extraction and analysed by Inductively Coupled Argon Plasma Spectrometry.

Materials other than modelling clay:

	Result (ppm)		Limit (ppm)
	(1)	(2)	
Soluble Barium (Ba)	<5	<5	1000
Soluble Lead (Pb)	<5	<5	90
Soluble Cadmium (Cd)	<5	<5	75
Soluble Antimony (Sb)	<5	<5	60
Soluble Selenium (Se)	<5	<5	500
Soluble Chromium (Cr)	<5	<5	60
Soluble Mercury (Hg)	<5	<5	60
Soluble Arsenic (As)	<2.5	<2.5	25

The above limit was quoted according to Section 8.3.2, 8.3.3, 8.3.4 and 8.3.5 of the ASTM standard Consumer Safety Specification for Toy Safety F963-17.

ppm = parts per million = mg/kg

Tested Components:

- (1) Silver color coating on plastic sheet (foil sheet).
- (2) Transparent plastic sheet excluding silver color coating (foil sheet).

Decision Rule:

∞ : Materials are deemed to comply with the requirements if the adjusted analytical result is less than or equal to the limit of this table.

The analytical result of materials shall be adjusted by subtracting the analytical correction in below table to obtain an adjusted analytical of result.

Elements	Sb	As	Ba	Cd	Cr	Pb	Hg	Se
Analytical Correction(%)	60	60	30	30	30	30	50	60

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(2) Total Lead (Pb) Content

Test Method : CPSC-CH-E1001-08.3, CPSC-CH-E1002-08.3 or/and CPSC-CH-E1003-09.1, analysed by Inductively Coupled Argon Plasma Spectrometry.

Coating:

Tested Component	Result in ppm	Limit in ppm
(1)	<20	90

Substrate:

Tested Component	Result in ppm	Limit in ppm
(2)	<20	100

The above limit was quoted according to Section 4.3.5.1 (1) and 4.3.5.2 (2)(a) of the ASTM standard Consumer Safety Specification for Toy Safety F963-17.

ppm = parts per million = mg/kg

Tested Components:

- (1) Silver color coating on plastic sheet (foil sheet).
- (2) Transparent plastic sheet excluding silver color coating (foil sheet).

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(3) Total Lead (Pb) Content in Non-Surface Coating Materials (Substrate)

Test Method : Standard Operating Procedures for Determining Total Lead (Pb) in Children's Products, test methods CPSC-CH-E1002-08.3 and/or CPSC-CH-E1001.08.3, analysed by Inductively Coupled Argon Plasma Spectrometry.

Tested Component	Result in ppm	Limit in ppm
(1)	<20	100

The above limit was quoted according to U.S. Consumer Product Safety Improvement Act 2008 Title I, Section 101.

ppm = parts per million = mg/kg

Tested Component:

- (1) Transparent plastic sheet excluding silver color coating (foil sheet).

Date sample received : Mar 08, 2022

Test Period : Mar 08, 2022 to Mar 15, 2022

(4) Total Lead (Pb) Content in Surface Coating

Test Method : Standard Operating Procedure for Determining Lead (Pb) in Paint and Other Similar Surface Coatings, test method CPSC-CH-E1003-09.1, analysed by Inductively Coupled Argon Plasma Spectrometry.

Tested Component	Result in ppm	Limit in ppm
(1)	<20	90

The Above limit was quoted according to U.S. CFR Title 16 Part 1303 and U.S. Consumer Product Safety Improvement Act 2008 Title I, Section 101.

ppm = parts per million = mg/kg

Tested Component:

- (1) Silver color coating on plastic sheet (foil sheet).

Date sample received : Mar 08, 2022

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(5) Phthalate Content Test

Test Method : Standard Operating Procedure for Determining Phthalates, test method CPSC-CH-C1001-09.4 was used and phthalate content was determined by Gas Chromatographic-Mass Spectrometric (GC-MS) analysis.

Compound	Result (% , w/w)		Limit (% , w/w)
	(1)	(2)	
Dibutyl phthalate (DBP)	<0.01	<0.01	0.1
Diethyl hexyl phthalate (DEHP)	<0.01	<0.01	0.1
Benzyl butyl phthalate (BBP)	<0.01	<0.01	0.1
Diisononyl phthalate (DINP)	<0.015	<0.015	0.1
Diisobutyl phthalate (DIBP)	<0.01	<0.01	0.1
Di-n-pentyl phthalate (DPP) / (DPENP)	<0.01	<0.01	0.1
Di-n-hexyl phthalate (DNHP) / (DHEXP)	<0.01	<0.01	0.1
Dicyclohexyl phthalate (DCHP)	<0.01	<0.01	0.1

The above limits are quoted from Federal Register, Vol. 82, No. 207, October 27, 2017, Rules and Regulations, Final rule for 16 CFR Part 1307 "Prohibition of Children's Toys and Child Care Articles Containing Specified Phthalates" effective from April 25, 2018.

Tested Components:

- (1) Silver color coating on plastic sheet (foil sheet).
- (2) Transparent plastic sheet excluding silver color coating (foil sheet).

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(6) Toxic Elements Analysis

Test Method : Model Toxics in Packaging Legislation requirement of packaging and packaging components, acid digestion method was used and toxic elements contents were determined by Inductively Coupled Argon Plasma Spectrometry, and Hexavalent Chromium content was determined by UV-Visible Spectrophotometry.

	Result (ppm)	Limit (ppm)
	(1)	
Total Lead (Pb)	<5	--
Total Cadmium (Cd)	<5	--
Total Mercury (Hg)	<5	--
Chromium VI (Cr (VI))	<5	--
Sum of Pb, Cd, Hg and Cr (VI)	<20	100

ppm = parts per million = mg/kg

Tested Component:

- (1) Transparent plastic sheet with silver color coating (foil sheet) (packaging).

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(7) Toxic Elements Analysis

Test Method : In house method(TC003.TP), microwave digestion and total Pb content determined by ICP-OES.(TC003.TP) and Health Canada Product Safety Laboratory Reference Manual Book 5-Laboratory Policies and Procedures Part B:Test Methods Section, Method C03. (with modifications by direct analysis using ICP-OES after filtration of leachate), determination of leachable As, Se, Cd, Sb and Ba in applied coating (2014-02-20). In house method(TC066.TP), microwave digestion and total Hg content determined by ICP-MS.

	Result (%, w/w) (1)	Limit (%, w/w)
Total Lead (Pb)	<0.001	0.009
Total Mercury (Hg)	ND	ND
Sol. Cadmium (Cd)	<0.001	0.100
Sol. Antimony (Sb)	<0.001	0.100
Sol. Selenium (Se)	<0.001	0.100
Sol. Arsenic (As)	<0.001	0.100
Sol. Barium (Ba)	<0.001	0.100

Sol. : Soluble

ND : Not detected

Detection limit : 0.0000078 (%, w/w)

The above limit was quoted according to Canada Consumer Product Safety Act Toys Regulations SOR/2011-17 section 23 with amendments SOR/2016-195.

Tested Component:

(1) Silver color coating on plastic sheet (foil sheet).

Date sample received : Mar 08, 2022

Test Period : Mar 08, 2022 to Mar 15, 2022

End of report

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