

## TEST REPORT

Applicant: NANO AND ADVANCED MATERIALS INSTITUTE  
NEW ISLAND PRINTING GROUP CO., LTD  
ROOM 1701, 17/F, BILLION PLAZA,  
8 CHEUNG YUE STREET,  
CHEUNG SHA WAN, KOWLOON,  
HONG KONG  
Attn: RAIN NG

Number: HKGH0302050005

Date: Jul 28, 2023

Sample and Information provided by customer :  
Item Name : **AGS-WB**  
PO No. : NA2300506  
Quantity : 1 bag  
Packaging Provided : Yes  
Manufacturer : New Island Printing Group Co., Ltd.  
Country of Origin : China  
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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) Council of Europe Resolution CM/Res (2020) 9 and EDQM Technical Guide on Paper and board used in food contact materials and articles, 2021, 1st Edition - Fastness of Fluorescent Whitened Paper and Board	Pass

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According to the test results, the tested components of the submitted sample met the requirements of the following tested parameters under §30 and §31 LFGB :

Tested parameters	Result
Sensory test	Pass
Extractable formaldehyde content	Pass
Pentachlorophenol content	Pass
Extractable Cadmium, Lead, Mercury, Chromium (VI) and Aluminium content	Pass
Transfer of antimicrobial constituents	Pass
Fluorescent optical brighteners	Pass
Extractable 1,3-Dichloro-2-propanol and 3-Chloro-1,2-propanediol content	Pass
Extractable primary aromatic amines content	Pass
Azocolourants and azodyes	Pass
Colorfastness	Pass

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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) Fastness of Fluorescent Whitened Paper and Board

Test Standard : EN 648 : 2018 Paper and board intended to come into contact with foodstuffs - Determination of the fastness of fluorescent whitened paper and board

Procedure applied : Procedure B: Medium time contact (4 hrs)  
Side tested : Printed side

<u>Tested component</u>	<u>Deionized water</u>	<u>Aqueous acetic acid</u>	<u>Alkaline salt solution</u>	<u>Rectified olive oil</u>
(1)	5	<u>3.0% (m/v)</u> 5	<u>with pH8.6 ± 0.1</u> 5	5

Remark: Evaluating against Fluorescent Whitened Agent Paper  
Requirement: No fluorescence (Grade 5)

Tested component:  
(1) White paper with black, blue printing.

Date sample received : Jun 05, 2023  
Test Period : Jun 05, 2023 to Jun 13, 2023



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(2) Sensory Evaluation

Test Standard : EN 1230-1 : 2009 and EN 1230-2 : 2009.

I. Odour

The test specimens were stored in a glass jar for 24 hours at 23°C in the dark, and a blank jar was set in the same manner as control. The odour of the air in the jars was estimated by a panel of 6 assessors. The intensity of the odour was evaluated on a scale from 0 to 4.

Tested component	Result (Score)	Requirement (Score)
(1)	0	<3

Score description :

- 0 = no perceptible odour
- 1 = odour just perceptible (difficult to define)
- 2 = weak odour
- 3 = clear odour
- 4 = strong odour

II. Off-flavour (taint)

The test specimens were incubated in a glass desiccator at 23°C and 75% relative humidity under darkness with chocolate. Two sets of chocolate were set in the same manner as controls. After 44 - 48 hours of incubation, three sets of chocolate (2 controls and 1 sample) were presented as blind samples to a panel of 6 assessors. Any taint (off-flavour) transferred was evaluated by Triangle Test. The intensity of the taint was evaluated on a scale from 0 to 4.

Tested component	Result (Score)	Requirement (Score)
(1)	0	<3

Score description :

- 0 = no perceptible off-flavour
- 1 = just perceptible off-flavour (difficult to define)
- 2 = weak off-flavour
- 3 = clear off-flavour
- 4 = strong off-flavour

Component no.	Component description
1	White paper with printings

Date sample received : Jun 05, 2023  
 Testing period : Jun 05, 2023 to Jul 04, 2023



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(3) Extractable Formaldehyde Content

Test method: BfR recommendation XXXVI.

Tested component	Result (mg/dm <sup>2</sup> )
(1)	< 0.1
Limit (mg/dm <sup>2</sup> )	1.0

Component no.	Component description
1	White paper with printings

Date sample received : Jun 05, 2023

Testing period : Jun 05, 2023 to Jul 04, 2023

(4) Pentachlorophenol (PCP) Content

Test method: Gas chromatography mass spectrometric (GC/MS) analysis.

Test Component	Result (mg/kg)
(1)	< 0.10

Requirement (max.) : 0.15 mg/kg

Tested Component :

(1) White paper card with pale blue/black printings.

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Testing period : Jun 05, 2023 to Jun 19, 2023



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(5) Extractable Cadmium, Lead, Mercury, Chromium (VI) and Aluminium Content

Test method: BfR recommendation XXXVI.

Tested component	Result				
	Cadmium (µg/l)	Lead (µg/l)	Mercury (µg/g)	Chromium (VI) (mg/l)	Aluminium (mg/l)
(1)	<1.0	<1.0	<0.01	ND	<0.1
Limit	5	10	0.3	ND (0.01)	1

Component no.	Component description
1	White paper with printings

Date sample received : Jun 05, 2023

Testing period : Jun 05, 2023 to Jul 04, 2023

(6) Extractable 1,3-Dichloro-2-propanol (DCP) and 3-Chloro-1,2-propanediol (MCPD) Content

Test Standard: With reference to LFGB B80.56-2 and EN 645

Compound	Result in µg/l	Requirement in µg/l
	(1)	
1,3-Dichloro-2-propanol (DCP)	<1.0	2.0
3-Chloro-1,2-propanediol (MCPD)	< 6	12

Component no.	Component description
1	White paper with printings

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(7) Extractable Primary Aromatic Amines Content

Test method: BfR Recommendation XXXVI.

Compound		Result (mg/kg)	Detection Limit (mg/kg)	Limit (mg/kg)
		(1)		
4-Aminodiphenyl	92-67-1	ND	0.002	ND
Benzidine	92-87-5	ND	0.002	ND
4-Chloro-o-toluidine	95-69-2	ND	0.002	ND
2-Naphthylamine	91-59-8	ND	0.002	ND
o-Aminoazotoluene	97-56-3	ND	0.002	ND
2-Amino-4-nitrotoluene	99-55-8	ND	0.002	ND
p-Chloroaniline	106-47-8	ND	0.002	ND
2,4-Diaminoanisole	615-05-4	ND	0.002	ND
4,4'-Diaminodiphenylmethane	101-77-9	ND	0.002	ND
3,3'-Dichlorobenzidine	91-94-1	ND	0.002	ND
3,3'-Dimethoxybenzidine	119-90-4	ND	0.002	ND
3,3'-Dimethylbenzidine	119-93-7	ND	0.002	ND
3,3'-Dimethyl-4,4'-diaminodiphenylmethane	838-88-0	ND	0.002	ND
p-Cresidine	120-71-8	ND	0.002	ND
4,4'-Methylene-bis(2-chloroaniline)	101-14-4	ND	0.002	ND
4,4'-Oxydianiline	101-80-4	ND	0.002	ND
4,4'-Thiodianiline	139-65-1	ND	0.002	ND
o-Toluidine	95-53-4	ND	0.002	ND
2,4-Toluylenediamine	95-80-7	ND	0.002	ND
2,4,5-Trimethylaniline	137-17-7	ND	0.002	ND
o-Anisidine	90-04-0	ND	0.002	ND
4-Aminoazobenzene	60-09-3	ND	0.002	ND
m-Phenylenediamine	108-45-2	ND	0.002	ND
Benzoguanamin	91-76-9	ND	0.05	5
4,4'-Methylenebis(3-chloro-2,6-diethylaniline)	106246-33-7	ND	0.05	0.05
Total of other primary aromatic amines	/	ND	0.010	0.010



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Remark :  
ND = Not detected

Other primary aromatic amines as listed in appendix 1 are included in the analysis.

Appendix 1: List of Other Primary Aromatic Amines	
p-phenylenediamine	106-50-3
Aniline	62-53-3
2,4-xylidine	95-68-1
2,6-xylidine	87-62-7
3-Methoxyaniline	536-90-3
2,6-toluenediamine	823-40-5
1,5-diaminonaphthalene	2243-62-1
4-ethoxyaniline	156-43-4
3-amino-4-methoxybenzanilide	120-35-4
3-amino-4-methylbenzamide	19406-86-1
2-amino-5-methylbenzoic acid	2941-78-8
1-Amino-2-naphthol	2834-92-6
4-Chloro-2-nitroaniline	89-63-4
2-Aminobenzoic acid butyl ester	7756-96-9
2,4,5-Trichloraniline	636-30-6
2,4-Dichloroaniline	554-00-7
5-Chloro-o-toluidine	95-79-4
o-Phenylendiamine	95-54-5
m-Chloroaniline	108-42-9
o-Chloroaniline	95-51-2
m-Toluidine	108-44-1
p-Toluidine	106-49-0
2-Methoxy-4-nitroaniline	97-52-9
2-Ethoxyaniline	94-70-2
5-Chloro-2-methoxyaniline	95-03-4
4-Chloro-3-methoxyaniline	13726-14-2
5-Amino-6-methyl-1,3-dihydrobenzoimidazol-2-one	67014-36-2
p-Aminobenzamide	2835-68-9
2,5-Dichloroaniline	95-82-9
2-Chloro-4-nitroaniline	121-87-9
2,5-Dimethoxy-4-chloroaniline	6358-64-1
2,4-Dinitroaniline	97-02-9
4-Aminotoluene-3-sulfonic acid	88-44-8
2-Aminobiphenyl	90-41-5
Dimethyl-2-aminoterephthalate	5372-81-6
2-Amino-1-naphthalenesulfanic acid	81-16-3
2-Methyl-4-nitroaniline	99-52-5
2-Nitroaniline	88-74-4





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1	White paper with printings

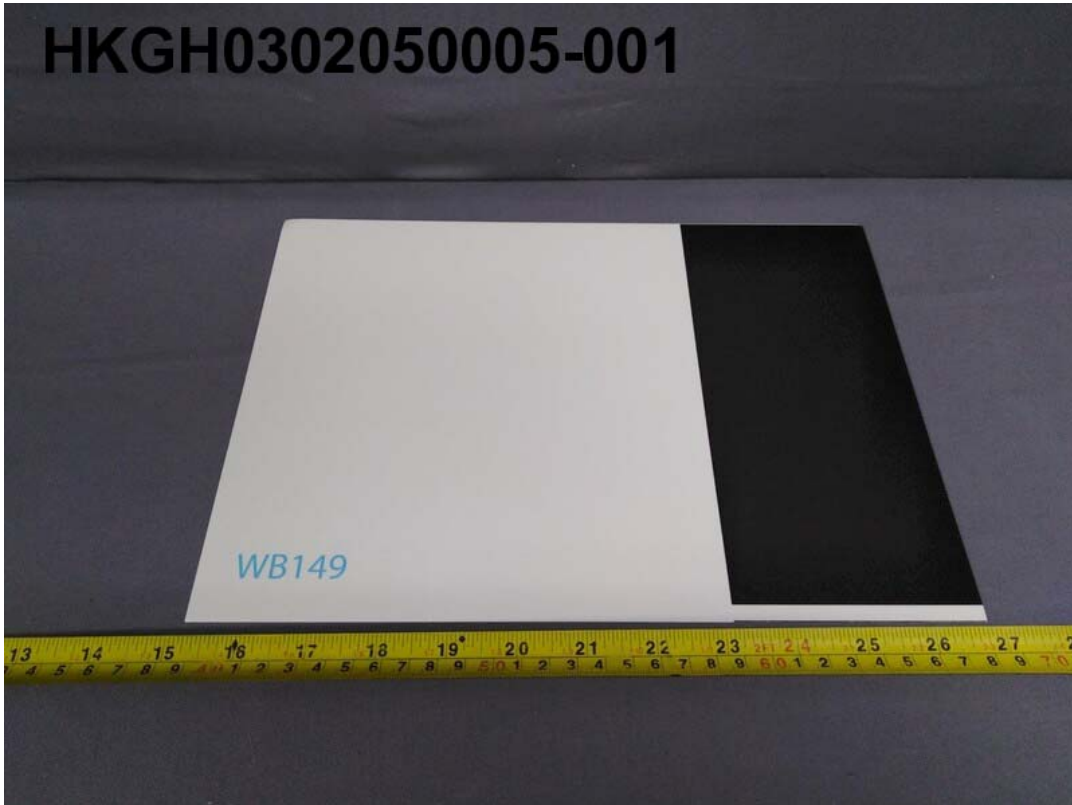
Date sample received : Jun 05, 2023

Testing period : Jun 05, 2023 to Jul 04, 2023



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End of report

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