

Test Report

Applicant : PT. Indah Kiat Pulp And Paper Tbk
Jl. Raya Serang Km. 76 Kragilan
Serang Banten 42184

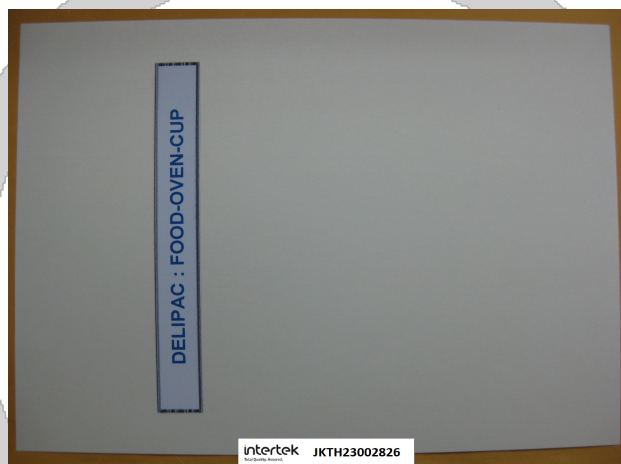
Date : Sep 15, 2023

Attn : Fini Fitriani, Tohari Waluyo

Sample description:

One (1) piece of submitted sample said to be :

Material Name	: DELIPAC : FOOD-OVEN-CUP
Country Of Original	: Indonesia
Manufacturers Name	: PT. Indah Kiat Pulp And Paper Tbk
Date sample received	: Sep 06, 2023
Testing period	: Sep 06, 2023 to Sep 15, 2023



Test conducted:

As requested by the applicant, for details please refer to attached pages.

Type of test: RoHS wet chemical analysis.

FN

Prepared and checked by:
For Intertek Indonesia

Made Widyani
Operation Manager - Testing



Test Report

Report Number: JKT23002826

Test conducted:

Test Result Summary:

Test Item	Unit	Test Method	Result	RL	Standard
			Paper		Limit #
Heavy Metal					
Cadmium (Cd) content	ppm	With reference to IEC 62321: 2013, by microwave or acid digestion and determined by ICP-OES.	ND	5	100
Lead (Pb) content	ppm	With reference to IEC 62321: 2013, by microwave or acid digestion and determined by ICP-OES.	ND	5	1000
Mercury (Hg) content	ppm	With reference to IEC 62321: 2013, by microwave or acid digestion and determined by ICP-OES.	ND	5	1000
Chromium VI (Cr ⁶⁺) content	ppm	With reference to IEC 62321 : 2017, by alkaline digestion and determined by UV-VIS spectrophotometer	ND	1	1000
Polybrominated Biphenyls (PBBs)					
Monobrominated Biphenyls (MonoBB)	ppm	With reference to IEC 62321: 2015, by solvent extraction and determined by GC-MS and further HPLC-DAD confirmation when necessary.	ND	5	1000
Dibrominated Biphenyls (DiBB)	ppm		ND	5	1000
Tribrominated Biphenyls (TriBB)	ppm		ND	5	1000
Tetrabrominated Biphenyls (TetraBB)	ppm		ND	5	1000
Pentabrominated Biphenyls (PentaBB)	ppm		ND	5	1000
Hexabrominated Biphenyls (HexaBB)	ppm		ND	5	1000
Heptabrominated Biphenyls (HeptaBB)	ppm		ND	5	1000
Octabrominated Biphenyls (OctaBB)	ppm		ND	5	1000
Nonabrominated Biphenyls (NonaBB)	ppm		ND	5	1000
Decabrominated Biphenyl (DecaBB)	ppm		ND	5	1000

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Test conducted:

Test Result Summary:

Test Item	Unit	Test Method	Result	RL	Standard
			Paper		Limit #
Polybrominated Diphenyl Ethers (PBDEs)					
Monobrominated Diphenyl Ethers (MonoBDE)	ppm	With reference to IEC 62321: 2015, by solvent extraction and determined by GC-MS and further HPLC-DAD confirmation when necessary.	ND	5	1000
Dibrominated Diphenyl Ethers (DiBDE)	ppm		ND	5	1000
Tribrominated Diphenyl Ethers (TriBDE)	ppm		ND	5	1000
Tetrabrominated Diphenyl Ethers (TetraBDE)	ppm		ND	5	1000
Pentabrominated Diphenyl Ethers (PentaBDE)	ppm		ND	5	1000
Hexabrominated Diphenyl Ethers (HexaBDE)	ppm		ND	5	1000
Heptabrominated Diphenyl Ethers (HeptaBDE)	ppm		ND	5	1000
Octabrominated Diphenyl Ethers (OctaBDE)	ppm		ND	5	1000
Nonabrominated Diphenyl Ethers (NonaBDE)	ppm		ND	5	1000
Decabrominated Diphenyl Ether (DecaBDE)	ppm		ND	5	1000
Phthalate test :					
Di(2-ethylhexyl) Phthalate (DEHP)	ppm	With reference to IEC 62321-8 : 2017, by solvent extraction and determined by GC-MS.	ND	50	1000
Benzyl Butyl Phthalate (BBP)	ppm		ND	50	1000
Dibutyl Phthalate (DBP)	ppm		ND	50	1000
Diisobutyl Phthalate (DIBP)	ppm		ND	50	1000

Remarks: ppm = Parts per million based on weight of tested sample = mg/kg
 ND = Not detected
 RL = Reporting limit, quantitation limit of analyte in sample
 # = Refer to RoHS 2011/65/EU Annex II and Amending Directive (EU) 2015/863 for homogeneous material.



Test Report

Report Number: JKTH23002826

Test conducted:

TOXIC ELEMENTS ANALYSIS

As per TPCB-Toxics in Packaging Clearinghouse (formerly CONEG) - model toxics in packaging legislation requirement of packaging and packaging components, acid digestion method was used and toxic elements content were determined by Inductively Coupled Plasma-Optical Emission Spectrometer (ICP-OES), and hexavalent chromium content was determined by UV-Vis Spectrophotometer (UV-VIS) .

	<u>Result (ppm)</u>	<u>Limit(ppm)</u>
	<u>Paper</u>	
Lead (Pb)	ND	--
Cadmium (Cd)	ND	--
Mercury (Hg)	ND	--
Chromium VI (Cr (VI))	ND	--
Total	ND	100

Remarks : ppm = Parts per million = mg/kg
 ND = Not detected
 Detection limit = 5 ppm

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Report Number: JKTH23002826

Test conducted:

TOXIC ELEMENTS ANALYSIS

As per 94/62/EEC and amendment 2004/12/EC and 2005/20/EC directive on packaging and packaging waste, acid digestion method was used and total toxic elements and hexavalent chromium content were determined by Inductively Coupled Plasma-Optical Emission Spectrometer (ICP-OES) , and by UV-Vis Spectrophotometer (UV-VIS) , respectively.

	Result (ppm)	Limit (ppm)
	<u>Paper</u>	
Lead (Pb)	ND	--
Cadmium (Cd)	ND	--
Mercury (Hg)	ND	--
Chromium VI (Cr (VI))	ND	--
Total	ND	100

Remarks : ppm = Parts per million = mg/kg
ND = Not detected
Detection limit = 5 ppm



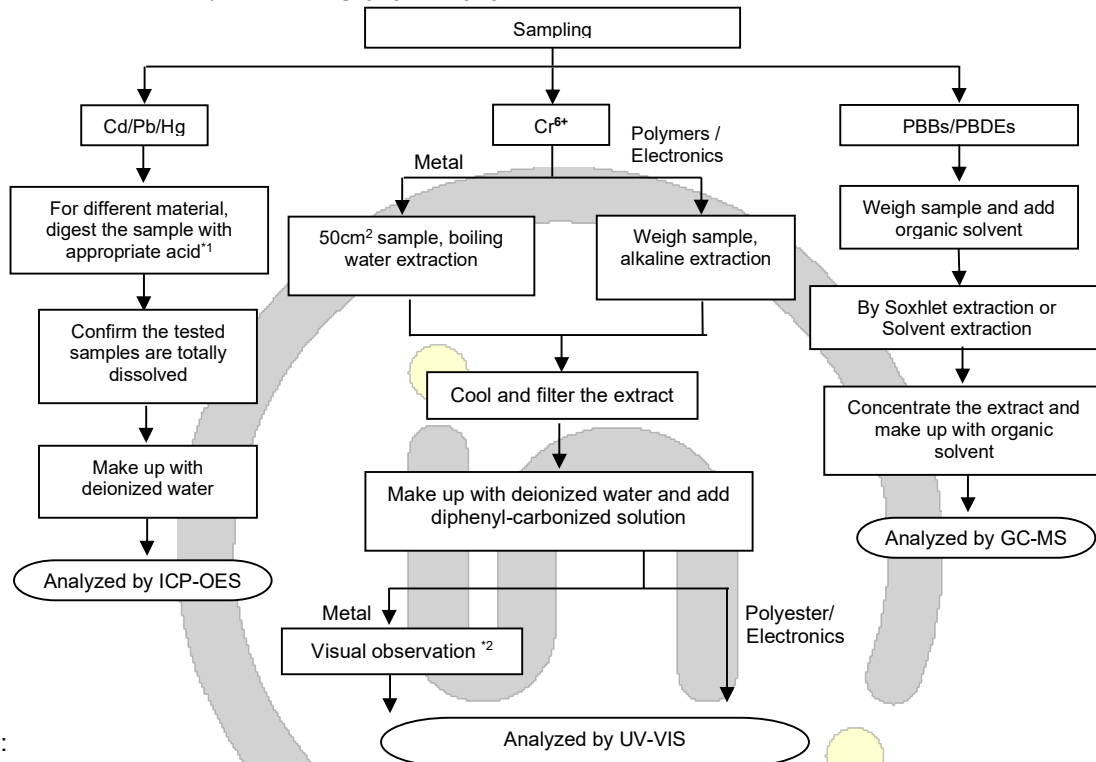
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Test conducted:

Measurement Flowchart: Test for Cd/Pb/Hg/Chromium (VI) content and PBB/PBDE

Reference Standard : Cd/Pb : IEC 62321-5: 2013; Hg: IEC 62321-4:2013;
Chromium (VI): IEC 62321-7-1:2015 (boiling water extraction)
Chromium (VI): IEC 62321:2017 (alkaline extraction)
PBBs/PBDEs: IEC 62321: 2015



Remarks:

*1: List of Appropriate Acid:

Material	Acid Added for Digestion
Polymers	HNO ₃ , HCl, HF, H ₂ O ₂ , H ₃ BO ₃
Metals	HNO ₃ , HCl, HF
Electronics	HNO ₃ , HCl, H ₂ O ₂ , HBF ₄

*2: If sample solution is significantly more intense than 0.13 µg/cm² equivalent comparison standard, Chromium VI would be determined as detected, the result of visual observation is positive.



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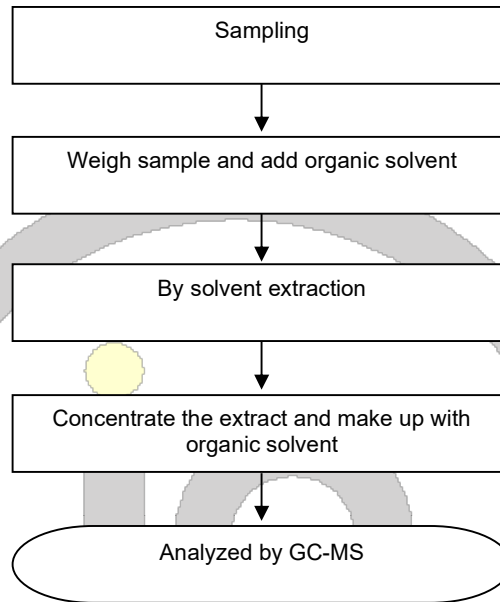
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Test conducted:

Measurement Flowchart:

Test for Phthalates Contents

Reference Method: IEC 62321-8 : 2017



END OF THE TEST REPORT

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