

Test Report

Report No : TUV(I)/503/22-23/9052210353 Part A

Date : 13 June 2022

TUV INDIA PRIVATE LIMITED

TUV Nord Group

No.8. VK Commerce,
II Floor, III Main Road,
Opp. KSSIDC, IT Park,
Rajajinagar, Industrial Estate,
Bangalore - 560 010. India.

CIN : U74140MH1989PTC052930

Phone : 080 - 40823000

Toll Free : 1800-209-0902

Email : foodlabindia@tuv-nord.com

Website : www.tuv-nord.com/in

Name and address of
customer

Tamil Nadu Newsprint and Papers Ltd. Unit II

(A Government of Tamil Nadu Enterprise)

Mondipatti, K. Periyapatti Post,
Manapparai Taluk,
Tiruchirappalli Dist,
Tamilnadu-621306.

Name of the sample

Solid Bleached Sulphate Board

Batch Code

Batch Code: AFT,AFT-B1,AFS,ALP,ASN

CA No.

9052210353

Date of sample receipt

12 May 2022

Date(s) of analysis

12 May 2022 - 13 June 2022

Discipline

Chemical

Objectives Of Examination

1.To test for compliance with US FDA 21.CFR.176.170 -
Chloroform - soluble extractive residues test.

Sample drawn by

Customer

Test Requested

Selected test(s) as requested by client.

Result Summary

Test Requested	Conclusion
1.US FDA 21.CFR.176.170 - Chloroform - soluble extractive residues test	PASS



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1.US FDA 21.CFR.176.170 - Chloroform - soluble extractive residues test

Sr. No.	Total Extractive Test Using Simulants	Temperature & Condition	Result	Unit	LOQ	Limits as per US FDA 21.CFR.176.170	Test Method
1	Distilled Water	120 °F-24hr	< LOQ	mg/inch ²	0.25	0.5	Based on TUVB/02/SOP/27 USFDA 21.CFR.176.170
2	8 % Ethanol	120 °F-24hr	< LOQ	mg/inch ²	0.25	0.5	
3	50 % Ethanol	120 °F-24hr	< LOQ	mg/inch ²	0.25	0.5	
4	n - Heptane	70 °F- 0.5hr	< LOQ	mg/inch ²	0.25	0.5	

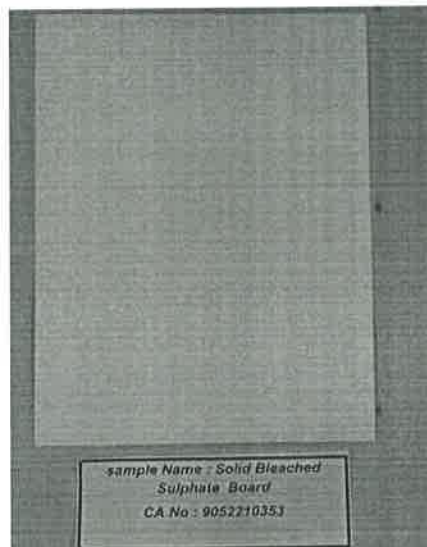
Note :

- 1) Sample **Complies** with US.FDA 21.CFR.176.170 for above tested parameters.
- 2) Sample kept in contact with Simulants above test condition.
- 3) Limits are as per USFDA 21.CFR.176.170
- 4) LOQ : Limit of Quantification



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RaghuRam Semmalai

Assistant Manager – Material Testing Services

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8. For Biological and mycotoxin Analysis: Our analytical findings reflect the quality of the sample at the time of testing. No responsibility can be accepted for the possible consequences of further development of micro-organisms or mycotoxin which may depend upon storage, handling & weather conditions which may influence the results at a later date/time respectively.
9. The laboratory tests are conducted by TUV India as per mutual agreement without any implied warranty of merchantability and fitness for any general or particular use. TUV India will not be liable for any claims for indirect, incidental or consequential damages including but not limited to loss of revenue, loss of profits and similar claims. TUV India will also not be liable under any strict liability, product liability or negligence. The total liability, scientifically and legally proven, if any, of TUV India, in any case, shall not exceed the invoiced amount for the services provided and paid for.
10. For Pesticide Residue analysis, reported value at LOQ level may vary within analytical variation of 50% considering Uncertainty of Measurement.

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End of Report



Test Report

Report No : TUV(I)/503/22-23/9052210353 Part C

Date : 13 June 2022

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Name and address of customer : **Tamil Nadu Newsprint and Papers Limited - Unit II**
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Mondipatti, K. Periyappatti Post,
Manapparai Taluk, Tiruchirappalli District, Tamil Nadu - 621306
Tiruchirappalli, Tamil Nadu
621306

Name of the sample : **Solid Bleached Sulphate Board**

Batch Code : **Batch Code: AFT,AFT-B1,AFS,ALP,ASN**

CA No. : **9052210353**

Date of sample receipt : **12-May-2022**

Date(s) of analysis : **12 May 2022 - 13 June 2022**

Objectives Of Examination : **To test for compliance with BFR XXXVI regulation & EC No: 1907/2006.**
1) Heavy metal
2) Specific Migration of Phthalates
3) Monochloropropanediol (MCPD)
4) Dichloropropanol (DCP)
5) Specific Migration of Primary Aromatic Amines
6) Azo Dyes
7) Specific Migration of Glyoxal
8) Optical Brighteners
9) Nonyl Phenol Ethoxylate (NPEO)
10) Acrylamide
11) Anti Microbial Substances
12) Specific Migration of Bisphenol A
13) Specific Migration of Dimethylamine

Test Requested : **Selected test(s) as requested by Customer**

Sample drawn by : **Customer**

Conclusion :

The submitted sample To test for BFR XXXVI Regulation, EC No: 1907/2006

For detail Test Results refer further pages



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1) Heavy metal test

Sr. No.	Name of Test	Result	Unit	LOQ	Limits as per BfR XXXVI	Test Method
1.1	Lead (Pb)	< LOQ	mg/kg	0.1	Max 3	Based on EN-647 Determined by ICP-OES
1.2	Cadmium (Cd)	< LOQ	mg/kg	0.1	Max 0.5	
1.3	Mercury (Hg)	< LOQ	mg/kg	0.1	Max 0.3	
1.4	Chromium (VI)	< LOQ	mg/kg	0.1	Not Detectable	

Note: The sample Complies above test parameter as per BfR XXXVI Regulation.
LOQ : Limit of Quantification

2) Specific Migration of Phthalates

Sr. No.	Name of Test Parameter	Result	Unit	LOQ	Limits as per BfR XXXVI	Test Method
2.1	Diethylhexyl phthalate	< LOQ	mg/kg	0.1	Max 1.5	Method based on BS EN 13130 (P1) 2004) by GC-MS
2.2	Di-n-butyl phthalate	< LOQ	mg/kg	0.1	Max 0.3	
2.3	Diisobutyl phthalate	< LOQ	mg/kg	0.1	Max 0.3	
2.4	The sum of Di-n-butyl phthalate & Diisobutyl phthalate	< LOQ	mg/kg	0.1	Max 0.3	

The sample Complies above test parameter as per BfR XXXVI Regulation.Limits as per the BfR XXXVI Regulation
LOQ : Limit of Quantification



3) Monochloropropanediol (MCPD)

Sr. No.	Name of Test	Result	Unit	LOQ	Limits as per BfR XXXVI	Test Method
3.1	Monochloropropanediol (MCPD)	< LOQ	µg/kg	10	12.00	Determined by GC-MSMS

The sample Complies above test parameter as per BfR XXXVI Regulation.

LOQ : Limit of Quantification

4) Dichloropropanol (DCP)

Sr. No.	Name of Test	Result	Unit	LOD/LOQ	Limits as per Standard	Test Method
4.1	Dichloropropanol (DCP)	Not Detected	mg/kg	0.01	Not Detectable	Determined by GC-MSMS

The sample Complies above test parameter as per BfR XXXVI Regulation.Limits as per the BfR XXXVI Regulation

LOQ : Limit of Quantification

5) Specific Migration of Primary Aromatic Amines

Sr. No.	Name of Test	Result	Unit	Detection Limit	Limits as per Standard	Test Method
5.1	Specific Migration of Primary Aromatic Amines	Not Detected	mg/kg	0.01	0.01	Method based on BS EN 13130(P1) 2004) Determined by GC MSMS

The sample Complies above test parameter as per BfR XXXVI Regulation.Limits as per the BfR XXXVI Regulation

6) Azo Dyes

Sr. No.	Name of Test	Result	Unit	Detection Limit	Limits as per Standard	Test Method
6.1	Azo Dyes	Not Detected	mg/kg	0.01	Prohibited	Based on EN 14362-1 Determined by GC MSMS

The sample Complies above test parameter as per BfR XXXVI Regulation.Limits as per the BfR XXXVI Regulation

7) Specific Migration of Glyoxal

Sr. No.	Name of Test	Result	Unit	LOQ	Limits as per BfR XXXVI	Test Method
7.1	Specific Migration of Glyoxal	< LOQ	mg/dm ²	1.0	NMT 1.5	Method based on BS EN 13130(P1) 2004) Determined by UPLC MS/MS

The sample Complies above test parameter as per BfR XXXVI Regulation.Limits as per the BfR XXXVI Regulation

LOQ : Limit of Quantification



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8) Optical Brightners						
Sr. No.	Name of Test	Result	Limits as per Standard		Test Method	
8.1	Optical Brightners (Fluorescent Substances of Wavelength 254 to 465 nm)	No optical Brightners Absorbed @ 254 to 465 nm	No visible transfer		Determined by UV Visible Spectrophotometer Based on EN 648	
Note: The sample Complies above test parameter as per BfR XXXVI Regulation.Limits as per the BfR XXXVI Regulation.						
9) Nonyl Phenol Ethoxylate (NPEO)						
Sr. No.	Name of Test	Result	Unit	LOQ	Limits as per BfR XXXVI	Test Method
9.1	Nonyl Phenol Ethoxylate (NPEO)	< LOQ	mg/kg	0.025	Not Detectable	Determined by UPLC MS/MS
The sample Complies above test parameter as per BfR XXXVI Regulation.Limits as per the BfR XXXVI Regulation LOQ : Limit of Quantification						
10) Acrylamide						
Sr. No.	Name of Test	Result	Unit	LOQ	Limits as per BfR XXXVI	Test Method
10.1	Acrylamide	< LOQ	mg/kg	0.025	Not Detectable	Determined by UPLC MS/MS
The sample Complies above test parameter as per BfR XXXVI Regulation.Limits as per the BfR XXXVI Regulation LOQ : Limit of Quantification						



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11) Microbiological test

Sr. No.	Name of Test Parameter	Result	Unit	Limits as per BfR XXXVI	Test Method
1.1	Antimicrobial Substances Bacillus subtilus NCIM 2063 Aspergillus niger NCIM 1196	Absence of zone inhibition	--	Absence of zone inhibition*	BS EN 1104:2005

*- Absence of zone of inhibition indicates should not release substances in quantities which have an antimicrobial effect in the Product against tested bacteria and fungi. The sample **Complies** above test parameter as per BfR XXXVI Regulation.

12) Specific Migration of Bisphenol A

Sr. No.	Name of Test	Result	Unit	LOQ	Limits as per BfR XXXVI	Test Method
12	Specific Migration of Bis Phenol A	< LOQ	mg/kg	0.025	Max 0.050	Cold water extract Followed by LC-MS/MS

The sample Complies above test parameter as per BfR XXXVI Regulation.

LOQ : Limit of Quantification

13) Specific Migration of Dimethylamine

Sr. No.	Name of Test	Result	Unit	Limits as per BfR XXXVI	Test Method
13	Specific Migration of Dimethylamine	Absent	mg/dm ²	Not Detectable	Method based on BS EN 13130(P1) 2004) Determined by GC MS/MS

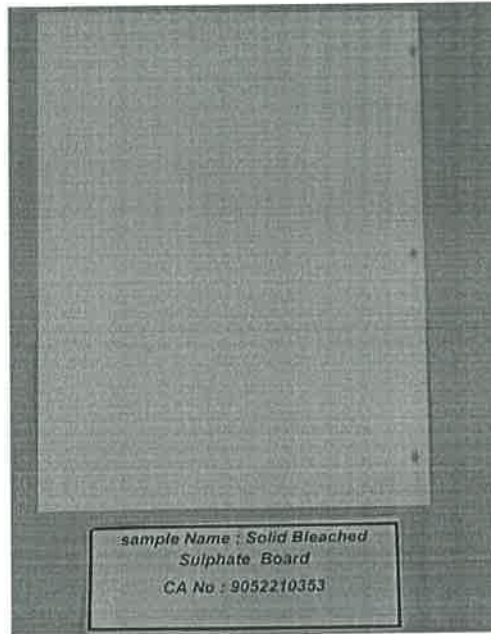
The sample Complies above test parameter as per BfR XXXVI Regulation. Limits as per the BfR XXXVI Regulation

LOQ : Limit of Quantification



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End of Report

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Test Report

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Name and address of customer : **Tamil Nadu Newsprint and Papers Ltd - Unit II**
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Tamilnadu-621306.

Name of the sample : **Solid Bleached Sulphate Board**

Batch Code : **Batch Code: AFT,AFT-B1,AFS,ALP,ASN**

Lab sample Id No. : **9052210353**

Date of sample receipt : **12 May 2022**

Date(s) of analysis : **12 May 2022 - 13 June 2022**

Discipline : **Chemical**

Products Category : **Food Contact & Food Packaging Materials**

Objectives Of Examination : **FSSAI - Food Safety and standard (Packaging) Regulation**
1) To test for compliance with IS-6615: 1972 (RA-2009) for Heavy Metal, PCP & PCB Content

Regulation Requirement : **To test for compliance with IS-6615: 1972 (RA-2009), Paper Board material & article intended to come in contact with Foodstuffs as per FSSAI Food Packaging Regulation.**

Sample drawn by : **Customer**

Conclusion	The Submitted sample Conforms with IS 6615: 1972 (Reaffirmed 2009) for Cadmium, Hexavalent Chromium, Lead, Mercury, Pentachlorophenol & Polychlorinated biphenyl_PCB test parameters.
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Refer further pages for Test Result



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Sr. No.	Name of Test	Result	LOQ	Unit	Limits as per IS 6615: 1972 (Reaffirmed 2009)	Test Method
1	Cadmium - Cd	< LOQ	0.25	mg/kg	0.5	Based on IS 6615: 1972 (Reaffirmed 2009)
2	Lead - Pb	< LOQ	0.25	mg/kg	3.0	
3	Mercury - Hg	< LOQ	0.25	mg/kg	0.3	
4	Hexavalent Chromium - Cr (VI)	< LOQ	0.05	mg/kg	0.1	
5	Pentachlorophenol Content	< LOQ	0.025	mg/kg	0.05	
6	Polychlorinated biphenyl_PCB Content	< LOQ	0.3	mg/kg	2.0	

Name of the PCBs Compounds Analysed

2-CHLOROBIPHENYL
3,3',-DICHLOROBIPHENYL
2,4,5-TRICHLOROBIPHENYL
2,2',4,4-TETRACHLOROBIPHENYL
2,3,4,5,6-PENTACHLOROBIPHENYL
2,2',3,3',6,6'-HEXACHLOROBIPHENYL
2,2',3,4,5,5',6,-HEPTACHLOROBIPHENYL
2,2',3,3',4,4',5,5'-OCTACHLOROBIPHENYL
2,2',3,3',4,4',5,5',6-NONACHLOROBIPHENYL
2,2',3,3',4,4',5,5',6,6'-DECACHLOROBIPHENYL

Note: LOQ-Limit of Quantification



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-- End of Report --

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TENTATIVE SPECIFICATION – AURA SIKSHA NATURAL

SUBSTANCE, g/m ² (TAPPI T 410)	CALIPER, µm (TAPPI T 411)	BULK, cm ³ /g	BENDING RESISTANCE, mN (TAPPI T 556)		
			MD	CD	GM
TOLERANCE : ±3%	TOLERANCE : ±5%	TOLERANCE : ±5%	TOLERANCE : ±15%		
190	238	1.25	85	45	60
200	250	1.25	90	50	65
210	263	1.25	100	55	75
220	275	1.25	110	60	80
230	288	1.25	120	65	90
240	313	1.25	140	75	100
250	325	1.25	150	80	110
260	350	1.25	160	85	115
270	363	1.25	185	100	135
280	375	1.25	200	105	145
290	400	1.25	220	115	160
300	438	1.25	235	120	165
320	238	1.25	275	140	195
330	250	1.25	320	155	222
350	263	1.25	365	175	250

PROPERTY			TOLERANCE	VALUE
MOISTURE, %	(TAPPI T 412)	-	-	6.0 to 7.0
ROUGHNESS [PPS], µm	(TAPPI T 555)	Top	Max	2.5
PLYBOND, J/m ²	(TAPPI T 569)	-	Min	170
COBB ₆₀ , g/m ²	(TAPPI T 441)	Top / Bottom	Max	40/40
IGT DRYPICK, m/s	(ISO3783)	Top	Min	0.7
GLOSS at 75°, %	(TAPPI T 480)	Top	Min	40
BRIGHTNESS, %	(ISO 2470)	Top	Min	82

NOTE

- The results of the properties are as per TNPL lab test measurements according to International standard test methods - TAPPI/ISO.
- The tentative specification is subject to change till the validation of the product.