



Test Report

Report No. THJS21030229356EN

Job No.:29356

Date: March 17, 2021

The following information was/were submitted and identified by/on behalf of the client:

Applicant : Jiangyin Jiaou New Materials Co.,Ltd
Address : No.1319 Xicheng Road, Qingyang Town, Jiangyin City, Jiangsu Province
Sample Name : PETG Sheet
Sample Receive Date : Mar. 04, 2021
Sample Testing Period : Mar. 04, 2021 - Mar. 11, 2021
Test Result Summary: Please refer to the next page(s)

Issued and on behalf of
Shanghai Global Testing Services Co., Ltd.

Authorized Signature  

Shi Lei/Kevin
General Manger -GTS/SHO

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This report is only responsible for the tested sample(s) from the client, the testing result(s) is used for scientific research, teaching or internal quality control. Without the writing agreement of the company, the client is not allowed to copy the report in part(entire copy is excepted).

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As requested by the applicant, for details refer to attached page(s).

TEST ITEM(S)	TEST REQUESTED	CONCLUSION(S)
Sensorial examination odour and taste	German Food and Feed Acts LFGB Section 30 and 31 with amendment	PASS
Overall Migration	German Food and Feed Acts LFGB Section 30 and 31 with amendments and BFR recommendation and Commission Regulation (EU) No.10/2011 with amendments	PASS
Specific Migration of Heavy Metals	German Food and Feed Acts LFGB Section 30 and 31 with amendments and BFR recommendation and Commission Regulation (EU) No.10/2011 with amendments	PASS
15 kinds of PAHs	German Food and Feed Acts LFGB Section 30 and 31 with amendments and BFR recommendation	PASS
Volatile Organic Matter	Selected test(s) as requested by client	See Result(s)
Peroxide Value	Selected test(s) as requested by client	See Result(s)
Phthalates content	German Food and Feed Acts LFGB Section 30 and 31 with amendments and BFR recommendation and Commission Regulation (EU) No.10/2011 with amendments	PASS
Specific Migration of Phthalates	German Food and Feed Acts LFGB Section 30 and 31 with amendments and BFR recommendation and Commission Regulation (EU) No.10/2011 with amendments	PASS



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Test Result(s):

Test Sample Description:

Sample No.	Client Claimed Material	Material Description
<u>01</u>	PETG	Transparent plastic sheet

1. Sensorial examination odour and taste

Test Method: DIN 10955:2004

<u>Test Item</u>	<u>Maximum permissible limit(Grade)</u>	<u>Result(s) (Grade)</u>
		<u>01</u>
Sensorial examination odour	2.5	1.0
Sensorial examination taste	2.5	1.0
<u>Conclusion(s)</u>		PASS

Note: Scale evaluation:

0 = No perceptible odour;

1 = Odour just perceptible (still difficult to define);

2 = Moderate odour;

3 = Moderately strong odour;

4 = Strong odour.



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2. Overall Migration

Test Method: With reference to Commission Regulation (EU) No.10/2011 of 14 January 2011 Annex III and Annex V for selection of conditions and EN1186-1:2002 for selection of test methods; EN1186-3:2002 aqueous food simulants by total immersion method.

<u>Simulant used</u>	<u>Test condition</u>	<u>Maximum permissible limit</u> (mg/dm ²)	<u>Result(s) (mg/dm²)</u>
			<u>01</u>
10% Ethanol (V/V) Aqueous Solution	2 hours at 70°C	10	< 3.0
20% Ethanol (V/V) Aqueous Solution	2 hours at 70°C	10	< 3.0
<u>Conclusion(s)</u>			PASS

- Note:**
1. mg/dm² = milligram per square decimeter of sample;
 2. "<" = less than;
 3. The test data is obtained from the 3rd extractive result by considering the articles intended for repeated use.



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3. Specific Migration of Heavy Metals

Test Method: With reference to Commission Regulation (EU) No.10/2011 of 14 January 2011 Annex III and Annex V for selection of conditions, followed by analysis using US EPA 6010D:2014 & GIG-WI-A2-C-147.

<u>Test Items</u>	<u>Test condition</u>	<u>Maximum permissible limit</u>	<u>Result(s) (mg/kg)</u>
		<u>(mg/kg)</u>	<u>01</u>
Migration Barium(Ba)	2 hours at 70°C (3% Acetic Acid (W/V) Aqueous Solution)	1	< 0.1
Migration Cobalt(Co)		0.05	< 0.01
Migration Copper(Cu)		5	< 0.1
Migration Iron(Fe)		48	< 0.1
Migration Lithium(Li)		0.6	< 0.1
Migration Manganese(Mn)		0.6	< 0.1
Migration Zinc(Zn)		5	< 0.1
Migration Aluminium(Al)		1	< 0.1
Migration Nickel(Ni)		0.02	< 0.01
<u>Conclusion(s)</u>			PASS

- Note:**
1. mg/kg = milligram per kilogram food simulant;
 2. "<" = less than;
 3. The test data is obtained from the 3rd extractive result by considering the articles intended for repeated use.



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4. Polycyclic Aromatic Hydrocarbons (PAHs)

Test Method: AfPS GS 2019:01 PAK

<u>Item No.</u>	<u>Test Item</u>	<u>CAS No.</u>	<u>Unit</u>	<u>MDL</u>	<u>Limit</u>	<u>Result(s)</u>
						<u>01</u>
1	Benzo(a)Pyrene	50-32-8	mg/kg	0.2	< 0.2	N.D.
2	Benzo(e)Pyrene	192-97-2	mg/kg	0.2	< 0.2	N.D.
3	Benzo(a)Anthracene	56-55-3	mg/kg	0.2	< 0.2	N.D.
4	Benzo(b)Fluoranthene	205-99-2	mg/kg	0.2	< 0.2	N.D.
5	Benzo(j)Fluoranthene	205-82-3	mg/kg	0.2	< 0.2	N.D.
6	Benzo(k)Fluoranthene	207-08-9	mg/kg	0.2	< 0.2	N.D.
7	Chrysene	218-01-9	mg/kg	0.2	< 0.2	N.D.
8	Dibenzo(a,h)Anthracene	53-70-3	mg/kg	0.2	< 0.2	N.D.
9	Benzo(g,h,i)Perylene	191-24-2	mg/kg	0.2	< 0.2	N.D.
10	Indeno(1,2,3-cd)Pyrene	193-39-5	mg/kg	0.2	< 0.2	N.D.
11	Phenanthrene	85-01-8	mg/kg	0.2	--	N.D.
12	Pyrene	129-00-0	mg/kg	0.2	--	N.D.
13	Anthracene	120-12-7	mg/kg	0.2	--	N.D.
14	Fluoranthene	206-44-0	mg/kg	0.2	--	N.D.
15	Naphthalene	91-20-3	mg/kg	0.2	< 1	N.D.
Sum of Phenanthrene, Pyrene, Anthracene, Fluoranthene		--	mg/kg	--	< 1	N.D.
Sum of 15 PAHs		--	mg/kg	--	< 1	N.D.
Conclusion(s)						PASS

- Note:**
1. mg/kg = milligram per kilogram sample;
 2. "<" = less than;
 3. MDL = Method Detection Limit;
 4. N.D. = Not Detected (< MDL).



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5. Volatile Organic Matter

Test Method: With reference to 48th Communication on the testing of plastics in

Bundesgesundheitsblatt 25(1982)334

<u>Test Items</u>	<u>Test condition</u>	<u>Result(s) (mg/dm²)</u>
		<u>01</u>
Volatile organic matter (VOM)	24 hours at 90°C	6.7

- Note:**
1. mg/dm² = milligram per square decimeter of sample;
 2. "<" = less than.

6. Peroxide Value

Test Method: With reference to European pharmacopoeia, 2005 Appendix X F. Peroxide Value method A

<u>Test Items</u>	<u>Result(s)</u>
	<u>01</u>
Peroxide Value	1.5

7. Phthalates content

Test Method: EN 14372:2004

<u>Test Items</u>	<u>CAS No.</u>	<u>Unit</u>	<u>MDL</u>	<u>Limit</u>	<u>Result(s)</u>
					<u>01</u>
Dibutyl phthalate (DBP)	84-74-2	%	0.005	0.05	N.D.
Butyl benzyl phthalate (BBP)	85-68-7	%	0.005	0.10	N.D.
Di-2-ethylhexyl phthalate (DEHP)	117-81-7	%	0.005	0.10	N.D.
Di-iso-nonyl phthalate (DINP)	28553-12-0	%	0.010	0.10	N.D.
Di-iso-decyl phthalate (DIDP)	26761-40-0	%	0.010	0.10	N.D.
Dibutyl phthalate (DBP)	84-74-2	%	0.005	0.5 (sum)	N.D.
Diisobutyl phthalate (DIBP)	84-69-5	%	0.005		N.D.
Dicyclohexyl phthalate (DCHP)	84-61-7	%	0.005		N.D.
<u>Conclusion(s)</u>					PASS



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- Note:**
1. 0.1% = 1000mg/kg, milligram per kilogram sample;
 2. MDL= Method Detection Limit;
 3. N.D.= Not Detected (<MDL).

8. Specific Migration of Phthalates

Test Method: With reference to Commission Regulation (EU) No.10/2011 of 14 January 2011 Annex III and Annex V for selection of conditions and EN 13130-1:2004 for selection of test methods, followed by analysis was performed by GC-MS.

<u>Test Items</u>	<u>CAS No.</u>	<u>Maximum permissible limit</u>	<u>Result(s) (mg/kg)</u>
		<u>(mg/kg)</u>	<u>01</u>
Dibutyl Phthalate(DBP)	84-74-2	0.3	< 0.05
Benzylbutyl Phthalate(BBP)	85-68-7	30	< 0.05
Di (2-ethylhexyl) Phthalate(DEHP)	117-81-7	1.5	< 0.05
Diallyl Phthalate(DAP)	131-17-9	Absent	< 0.01
Diisononyl Phthalate(DINP)	68515-48-0	9	< 0.05
Diisodecyl Phthalate(DIDP)	26761-40-0	(sum)	
<u>Conclusion(s)</u>			PASS

- Note:**
1. mg/kg = milligram per kilogram food simulant;
 2. "<" = less than;
 3. Simulant used: 10% Ethanol (V/V)Aqueous Solution, Test condition: 2 hours at 70°C;
 4. The test data is obtained from the 3rd extractive result by considering the articles intended for repeated use.

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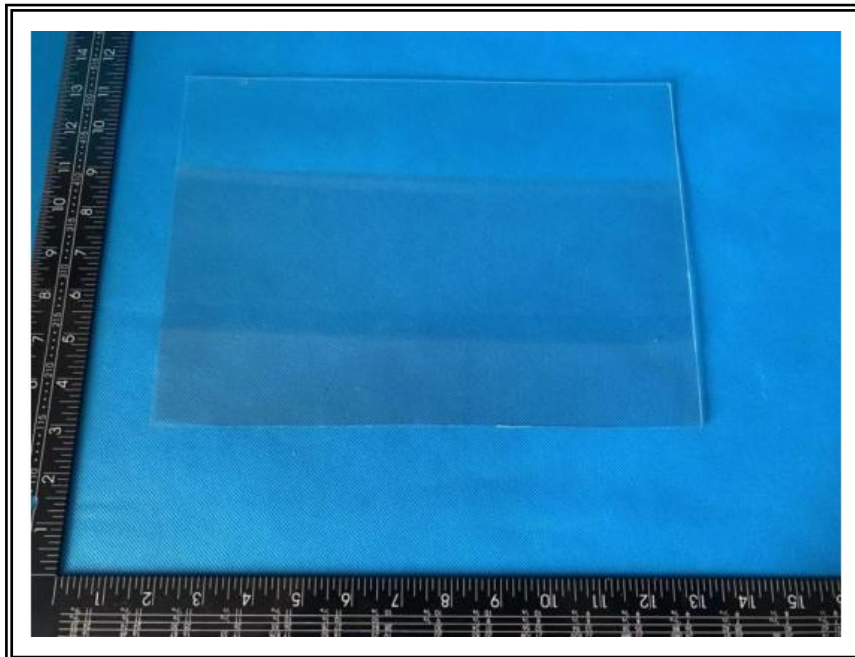
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<u>Test Items</u>	<u>CAS No.</u>	<u>Maximum permissible limit</u>	<u>Result(s) (mg/kg)</u>
		<u>(mg/kg)</u>	<u>01</u>
Dibutyl Phthalate(DBP)	84-74-2	0.3	< 0.05
Benzylbutyl Phthalate(BBP)	85-68-7	30	< 0.05
Di (2-ethylhexyl) Phthalate(DEHP)	117-81-7	1.5	< 0.05
Diallyl Phthalate(DAP)	131-17-9	Absent	< 0.01
Diisononyl Phthalate(DINP)	68515-48-0	9	< 0.05
Diisodecyl Phthalate(DIDP)	26761-40-0	(sum)	
<u>Conclusion(s)</u>			PASS

- Note:**
1. mg/kg = milligram per kilogram food simulant;
 2. "<" = less than;
 3. Simulant used: 20% Ethanol (V/V)Aqueous Solution, Test condition: 2 hours at 70°C;
 4. The test data is obtained from the 3rd extractive result by considering the articles intended for repeated use.

Sample Photo(s):



End of Report