

Test Report No. 4529525

Date : 4-Mar-2020

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Client : Prepack Thailand Co., Ltd.
30/145,Moo1,
Khok Kham,Muang, Samutsakorn 74000 Thailand

The following sample(s) was/were submitted and identified by client as:

Sample Name : PET / LLDPE (S)
Sample Description : Plastic Laminate
Manufacturer/Vendor : Prepack Thailand Co., Ltd.
Country of Origin : Thailand

The following sample(s) was/were identified by SGS as:

SGS Sample No. : 4668534
Sample Condition : Sample is contained in a plastic bag.
Quantity Submitted : 1 bag

Sample Receiving Date : 4-Feb-2020
Testing Period : 4-Feb-2020 to 4-Mar-2020

Test Method & Results : Please refer to next page(s).

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Test Requested & Result Summary

Test Requested : Please refer to the result summary (Test parameter(s) was/were selected by client).

Result Summary:

Test Requested	Conclusion
Commission Regulation (EU) No 10/2011 of 14 January 2011 and hence Article 3 of European Regulation No. 1935/2004	--
a) Plastic - Overall migration	
3% Acetic Acid (W/V) Aqueous Solution	PASS
10% Ethanol (V/V) Aqueous Solution	PASS
20% Ethanol (V/V) Aqueous Solution	PASS
Rectified Olive Oil	PASS
MPPO For dry food	PASS
b) Plastic - Specific Migration of Heavy Metal	PASS

Remark: 1. Test results in this report are applicable for the item tested and reflects the tested sample as received.

**Signed for and on behalf of
SGS (Thailand) Limited**



**Rutchuporn Mungsom
Laboratory manager - Toy and Hardgood**

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TEST RESULTS

Testing as per Commission Regulation (EU) No 10/2011

a) Plastic - Overall migration

Method : With reference to Commission Regulation (EU) No 10/2011 of 14 January 2011 Annex III and Annex V for selection of condition and EN 1186-1:2002 for selection of test method (1st migration);
EN 1186-5:2002 aqueous food simulants by cell method;
EN 1186-4:2002 olive oil by cell method;
EN1186-13 :2002 Method B - adsorption by modified polyphenylene oxide.

Simulant Used	Test Condition	Result (1) (mg/dm ²)	Reporting Limit (mg/dm ²)	Permissible Limit (mg/dm ²)
3% Acetic Acid (W/V) Aqueous Solution	10 days at 40 Degree C	ND	3.0	10
10% Ethanol (V/V) Aqueous Solution	10 days at 40 Degree C	ND	3.0	10
20% Ethanol (V/V) Aqueous Solution	10 days at 40 Degree C	ND	3.0	10
Rectified Olive Oil	10 days at 40 Degree C	ND	3.0	10
Poly (2,6-diphenyl-p-phenylene oxide) (MPPO)	10 days at 40 Degree C	ND	3.0	10
Comment	--	PASS	--	--

Sample Description :
(1) Clear plastic (inside)

Remark :

- Analytical tolerance of aqueous simulants is 1mg/dm² or 6mg/kg
- Analytical tolerance of fatty food simulants is 3mg/dm² or 20mg/kg
- The ratio of surface area to volume ratio is 10 dm² per 1 kg of foodstuff in contact with.

Notes :

- mg/dm² = milligram per square decimeter
- degree C = degree Celsius
- ND = Not Detected
- Test condition & simulant were specified by client.

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TEST RESULTS

b) Plastic - Specific Migration of Heavy Metal

Method: Sample preparation in 3% acetic acid (w/v) in aqueous solution at 40 Degree C for 10 days with reference to EN 13130-1:2004, Regulation EU No.10/2011(1st migration); followed by analysis using Inductively Coupled Argon Plasma Spectrometry (ICP).

Test Item	Result (1) (mg/kg)	Reporting Limit (mg/kg)	Permissible Limit (mg/kg)
Specific Migration of Aluminium	ND	0.1	1**
Specific Migration of Barium	ND	0.25	1
Specific Migration of Cobalt	ND	0.05	0.05
Specific Migration of Copper	ND	0.25	5
Specific Migration of Iron	ND	0.25	48
Specific Migration of Lithium	ND	0.5	0.6
Specific Migration of Manganese	ND	0.25	0.6
Specific Migration of Zinc	ND	0.5	5**
Specific Migration of Nickel	ND	0.01	0.02***
Comment	PASS	--	--

Sample Description :

1. Clear plastic (inside)

Note :

1. mg/kg = milligram per kilogram of foodstuff in contact with
2. Degree C = degree Celsius
3. ND = Not Detected
4. Test condition & simulant were specified by client.
5. ** = The limits of aluminium and zinc according to Commission Regulation (EU) 2016/1416 shall be applied from 14 September 2018.
6. *** = The limits of nickel according to Commission Regulation (EU) 2017/752 shall be applied from 19 May 2019.
7. The ratio of surface area to volume ratio is 6 dm² per 1 kg of foodstuff in contact with.

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SAMPLE/ATTACHMENT PICTURE



***** End of Report *****

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