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Test Report No. 5803398

Date : 14-Feb-2024

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

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

Sample Name	: PET/ALU/LLDPE
Sample Description	: Plastic bag
Manufacturer/Vendor	: PREPACK THAILAND CO.,LTD.
Country of Origin	: Thailand
The following sample(s) v	was/were identified by SGS as:
SGS Sample No.	: 6088580
Sample Condition	: Sample is contained in a plastic bag.
Quantity Submitted	: 1 pack
Sample Receiving Date	:25-Jan-2024
Testing Period	:25-Jan-2024 to 14-Feb-2024
Test Method & Results	: Please refer to next page(s).

Signed for and on behalf of SGS (Thailand) Ltd.

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Rutchuporn Moungsom Laboratory manager - Toy and Hard goods

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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 European Commission Regulation (EU) No 10/2011 and its amendment a) Overall migration##	Conclusion
3% Acetic Acid (W/V)	PASS
10% Ethanol (V/V)	PASS
20% Ethanol (V/V)	PASS
50% Ethanol (V/V)	PASS
Rectified Olive Oil	PASS
MPPO for dry food	PASS
b) Specific Migration of Heavy Meta#	PASS

Remark:

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

2. # ; The decision rules based on simple acceptance which the probability of false accept may be as high as 50% in case the results is exactly on the tolerance limit.

3. ## ; The decision rules based on the requested specification or standard.

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TEST RESULTS

European Commission Regulation (EU) No 10/2011 and its amendment

a) 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 1186-2:2022 Test methods for overall migration in vegetable oils

EN 1186-3:2022 Test methods for overall migration in evaporable simulants EN 1186-13 :2002 Method B - adsorption by modified polyphenylene oxide

Simulant Used	Test Condition	Result (1) (mg/dm2)	Reporting Limit (mg/dm2)	Permissible Limit (mg/dm2)
3% Acetic Acid (W/V)	10 days at 40 Degree C	ND	3.0	10
10% Ethanol (V/V)	10 days at 40 Degree C	ND	3.0	10
20% Ethanol (V/V)	10 days at 40 Degree C	ND	3.0	10
50% Ethanol (V/V)	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-diphenyI-p-phenylene oxide) (MPPO)	10 days at 40 degree C	ND	3.0	10
Comment		PASS		

Sample Description :

(1) Aluminium foil / clear plastic bag with multicolor printed (inside)

Notes :

- 1. mg/dm2 = milligram per square decimeter
- 2. degree C = degree Celsius
- 3. ND = Not Detected

4. Permissible Limit is according to Commission Regulation (EU) No 10/2011 of 14 January 2011 and its amendment.

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TEST RESULTS Remark:

1. Analytical tolerance of evaporable simulants is 2mg/dm2.

- 2. Analytical tolerance of olive oil simulant is 3mg/dm2.
- 3. Test condition & simulant were specified by client.
- 4. The ratio of surface area to volume is 20 dm2 per 1 kg of foodstuff in contact with.
- 5. The ratio of surface area to volume is 1 dm2 per 2 g of MPPO in contact with.

6. The product is single-use as specified by client.
7. The test item(s) marked *** on test report is/are analyzed at SGS (Thailand) Limited, address: 10, 10/1 - 4 and 12 Soi Rama III S. 59, Chong Nonsi, Yan Nawa, Bangkok.

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TEST RESULTS

c) Specific migration of heavy metal

Method: With reference to EN 13130-1:2004. Analysis was performed by ICP-MS / ICP-OES. Ammonium was analyzed by UV-Vis Spectrophotometer. Simulant Used: 3% acetic acid (w/v) Test Condition: 40 Degree C for 10 days (1st Migration) Single-use article:

Test Item	Result (1) (mg/kg) (1 st migration)	Reporting Limit (mg/kg)	Permissible Limit (mg/kg)
Specific Migration of Aluminium***	ND	0.1	1
Specific Migration of Antimony***	ND	0.01	0.04
Specific Migration of Arsenic***	ND	0.01	ND
Specific Migration of Barium***	ND	0.25	1
Specific Migration of Cadmium***	ND	0.002	ND
Specific Migration of Chromium***	ND	0.01	ND
Specific Migration of Cobalt***	ND	0.01	0.05
Specific Migration of Copper***	ND	0.25	5
Specific Migration of Iron***	ND	5	48
Specific Migration of Lead***	ND	0.01	ND
Specific Migration of Lithium***	ND	0.1	0.6

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TEST	RESU	ITS

Test Item	Result (1) (mg/kg) (1 st migration)	Reporting Limit (mg/kg)	Permissible Limit (mg/kg)
Specific Migration of Manganese***	ND	0.1	0.6
Specific Migration of Mercury***	ND	0.01	ND
Specific Migration of Nickel***	ND	0.01	0.02
Specific Migration of Zinc***	ND	0.5	5
Specific Migration of Europium***	ND	0.025	-
Specific Migration of Gadolinium***	ND	0.025	-
Specific Migration of Lanthanum***	ND	0.025	-
Specific Migration of Terbium***	ND	0.025	-
Specific Migration of Europium + Gadolinium + Lanthanum + Terbium	ND		0.05
Comment	PASS		

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Test Item	Result (1) (mg/kg) (1st migration)	Reporting Limit (mg/kg)
Specific Migration of Ammonium	ND	1
Specific Migration of Calcium***	ND	1
Specific Migration of Magnesium***	ND	1
Specific Migration of Potassium***	ND	1
Specific Migration of Sodium***	ND	1

Sample Description:

1. Aluminium foil / clear plastic bag with multicolor printed (inside)

Note :

- 1. mg/kg = milligram per kilogram of foodstuff in contact with
- 2. Degree C = degree Celsius
- 3. ND = Not Detected
- 4. Permissible Limit is according to Commission Regulation (EU) No 10/2011 of 14 January 2011 and its amendment

Remark:

- 1. Test condition & simulant were specified by client.
- 2. The ratio of surface area to volume is 6 dm2 per 1 kg of foodstuff in contact with.
- 3. The product is single-use as specified by client.
- 4. The test item(s) marked *** on test report is/are analyzed at SGS (Thailand) Limited, address: 10, 10/1 4 and 12 Soi Rama III S. 59, Chong Nonsi, Yan Nawa, Bangkok.

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Test Report No.5803398SAMPLE/ATTACHMENT PICTURE

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