

**Test Report No.** 5851597

**Date :** 2-Apr-2024

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

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

Sample Name : CPP/LLDPE  
Sample Description : Plastic film  
Manufacturer/Vendor : PREPACK THAILAND CO., LTD.  
Country of Origin : Thailand

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

SGS Sample No. : 6138275  
Sample Condition : Sample is contained in a plastic bag.  
Quantity Submitted : 1 pack  
Sample Receiving Date : 11-Mar-2024  
Testing Period : 11-Mar-2024 to 2-Apr-2024

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

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



**Rutchuporn Moungsom**  
**Toys and Hardlines Laboratory Manager**



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

**Remark:**

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)<br>(mg/dm <sup>2</sup> ) | Reporting Limit<br>(mg/dm <sup>2</sup> ) | Permissible Limit<br>(mg/dm <sup>2</sup> ) |
|---|---------------------------|-------------------------------------|--|--|
| 3% Acetic Acid (W/V)                            | 10 days at<br>40 Degree C | ND                                  | 3.0                                      | 10   |
| 10% Ethanol (V/V)                               | 10 days at<br>40 Degree C | ND                                  | 3.0                                      | 10   |
| 20% Ethanol (V/V)                               | 10 days at<br>40 Degree C | ND                                  | 3.0                                      | 10   |
| Rectified Olive Oil***                          | 10 days at<br>40 Degree C | ND                                  | 3.0                                      | 10   |
| Poly (2,6-diphenyl-p-phenylene<br>oxide) (MPPO) | 10 days at<br>40 degree C | ND                                  | 3.0                                      | 10   |
| Comment   | --                        | PASS                                | --                                       | --   |

Sample Description :

(1) Clear plastic film with multicolor printed (inside)

Notes :

1. mg/dm<sup>2</sup> = 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/dm<sup>2</sup>.
2. Analytical tolerance of olive oil simulant is 3mg/dm<sup>2</sup>.
3. Test condition & simulant were specified by client.
4. The ratio of surface area to volume is 20 dm<sup>2</sup> per 1 kg of foodstuff in contact with.
5. The ratio of surface area to volume is 1 dm<sup>2</sup> per 4 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**

**b) 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: 60 Degree C for 10 days (1st Migration)

Single-use article:

| Test Item                          | Result (1)<br>(mg/kg)<br>(1 st migration) | Reporting Limit<br>(mg/kg) | Permissible Limit<br>(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 RESULTS

| Test Item  | Result (1)<br>(mg/kg)<br>(1 st migration) | Reporting Limit<br>(mg/kg) | Permissible Limit<br>(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<br>+ Lanthanum + Terbium | ND  | --                         | 0.05                         |
| Comment  | PASS                                      | --                         | --                           |

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**TEST RESULTS**

| Test Item                          | Result (1)<br>(mg/kg)<br>(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) Clear plastic film 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 dm<sup>2</sup> 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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### SAMPLE/ATTACHMENT PICTURE



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

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