

**Test Report No.** 5543366

**Date :** 12-Apr-2023

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**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 : OPP/LLDPE  
Sample Description : Plastic bag  
Manufacturer/Vendor : Prepack Thailand Co., Ltd.  
Country of Origin : Thailand

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

SGS Sample No. : 5796188  
Sample Condition : Sample is contained in a plastic bag.  
Quantity Submitted : 1 pack  
Sample Receiving Date : 21-Mar-2023  
Testing Period : 21-Mar-2023 to 12-Apr-2023

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

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



**Rutchuporn Mounksom**  
**Laboratory manager - Toy and Hard goods**

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**TEST RESULTS**

**Notification of the Ministry of Public Health (No.435) B.E. 2565 (2022) (List no.1) : Qualities or standard for container made from plastic;**

**a) Overall migration limits**

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

EN1186-13 :2002 Method B - adsorption by modified polyphenylene oxide.

Simulant Used	Test Condition	Result (1) (mg/dm <sup>2</sup> )	Reporting Limit (mg/dm <sup>2</sup> )	Permissible Limit (mg/dm <sup>2</sup> )
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
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 bag (inside)

**Notes :**

1. mg/dm<sup>2</sup> = milligram per square decimeter
2. degree C = degree Celsius
3. ND = Not Detected
4. Test condition & simulant were specified by client.
5. The product is single-use as specified by client.
6. The test result have been extracted from report number 5543144 (except MPPO).

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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.

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 RESULTS**

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	--	--

**Sample Description:**

1. Clear plastic bag (inside)

**Note :**

1. mg/kg = milligram per kilogram of foodstuff in contact with
2. Degree C = degree Celsius
3. ND = Not Detected

**Remark:**

1. Test condition & simulatant 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 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.
4. The test result have been extracted from report number 5543144.

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TEST RESULTS

c) Specific migration of Primary Aromatic Amine

Method: With reference to EN13130-1:2004. Analysis was performed by LC-MSMS.

Simulant Used: 3% acetic acid (w/v)

Test Condition: 40 degree C for 10 days (1st Migration)

Test Item	Cas No.	Result (1) (mg/kg)	Reporting Limit (mg/kg)	Permissible Limit (mg/kg)
biphenyl-4-ylamine 4-aminobiphenyl xenylamine***	92-67-1	ND	0.002	ND
benzidine***	92-87-5	ND	0.002	ND
4-chloro-o-toluidine***	95-69-2	ND	0.002	ND
2-naphthylamine***	91-59-8	ND	0.002	ND
o-aminoazotoluene 4-amino-2',3-dimethylazobenzene 4-o-tolylazo-o-toluidine***	97-56-3	ND	0.002	ND
5-nitro-o-toluidine***	99-55-8	ND	0.002	ND
4-chloroaniline***	106-47-8	ND	0.002	ND
4-methoxy-m-phenylenediamine***	615-05-4	ND	0.002	ND
4,4'-methylenedianiline 4,4'-diaminodiphenylmethane***	101-77-9	ND	0.002	ND
3,3'-dichlorobenzidine 3,3'-dichlorobiphenyl-4,4'-ylenedia mine***	91-94-1	ND	0.002	ND
3,3'-dimethoxybenzidine o-dianisidine***	119-90-4	ND	0.002	ND

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**TEST RESULTS**

Test Item	Cas No.	Result (1) (mg/kg)	Reporting Limit (mg/kg)	Permissible Limit (mg/kg)
3,3'-dimethylbenzidine 4,4'-bi-o-toluidine***	119-93-7	ND	0.002	ND
4,4'-methylenedi-o-toluidine***	838-88-0	ND	0.002	ND
6-methoxy-m-toluidine p-cresidine***	120-71-8	ND	0.002	ND
4,4'-methylene-bis-(2-chloro-aniline) 2,2'-dichloro-4,4'-methylene-dianiline ***	101-14-4	ND	0.002	ND
4,4'-oxydianiline***	101-80-4	ND	0.002	ND
4,4'-thiodianiline***	139-65-1	ND	0.002	ND
o-toluidine 2-aminotoluene***	95-53-4	ND	0.002	ND
4-methyl-m-phenylenediamine***	95-80-7	ND	0.002	ND
2,4,5-trimethylaniline***	137-17-7	ND	0.002	ND
o-anisidine 2-methoxyaniline***	90-04-0	ND	0.002	ND
4-amino azobenzene***	60-09-3	ND	0.002	ND
1,3-phenylenediamine***	108-45-2	ND	0.002	ND
4,4'-Methylenebis (3-chloro-2,6-diethylaniline)**	106246-33-7	ND	0.002	0.05
4,4'-diaminodiphenyl sulphone**	80-08-0	ND	0.002	5
2-aminobenzamide**	88-68-6	ND	0.002	0.05
Comment	--	PASS	--	--

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TEST RESULTS

Primary Aromatic Amine (Other)\*\*

Test Item	Cas No.	Result (1) (mg/kg)	Reporting Limit (mg/kg)	Permissible Limit (mg/kg)
Benzoguanamin	91-76-9	ND	0.002	--
p-phenylenediamine	106-50-3	ND	0.002	--
Aniline	62-53-3	ND	0.002	--
2,4-xylidine	95-68-1	ND	0.002	--
2,6-xyidine	87-62-7	ND	0.002	--
3-Methoxyaniline	536-90-3	ND	0.002	--
2,6-toluenediamine	823-40-5	ND	0.002	--
1,5-diaminonaphthalene	2243-62-1	ND	0.002	--
4-ethoxyaniline	156-43-4	ND	0.002	--
3-amino-4-methoxybenzanilide	120-35-4	ND	0.002	--
3-amino-4-methylbenzamide	19406-86-1	ND	0.002	--
2-amino-5-methylbenzoic acid	2941-78-8	ND	0.002	--
2-Aminobenzoic acid butyl ester	7756-96-9	ND	0.002	--
5-Chloro-o-toluidine	95-79-4	ND	0.002	--
o-Phenylenediamine	95-54-5	ND	0.002	--
m-Chloroaniline	108-42-9	ND	0.002	--

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Test Item	Cas No.	Result (1) (mg/kg)	Reporting Limit (mg/kg)	Permissible Limit (mg/kg)
o-Chloroaniline	95-51-2	ND	0.002	--
m-Toluidine	108-44-1	ND	0.002	--
p-Toluidine	106-49-0	ND	0.002	--
2-Methoxy-4-nitroaniline	97-52-9	ND	0.002	--
2-Ethoxyaniline	94-70-2	ND	0.002	--
5-Chloro-2-methoxyaniline	95-03-4	ND	0.002	--
4-Chloro-3-methoxyaniline	13726-14-2	ND	0.002	--
5-Amino-6-methyl-1,3-dihydrobenzoi midazol-2-one	67014-36-2	ND	0.002	--
p-Aminobenzamide	2835-68-9	ND	0.002	--
2,5-Dichloroaniline	95-82-9	ND	0.002	--
2-Chloro-4-nitroaniline	121-87-9	ND	0.002	--
2,5-Dimethoxyl-4-chloroaniline	6358-64-1	ND	0.002	--
2,4-Dinitroaniline	97-02-9	ND	0.002	--
2-Aminobiphenyl	90-41-5	ND	0.002	--
Dimethyl-2-aminoterephthalate	5372-81-6	ND	0.002	--
1,3-Diaminoisoindoline	3468-11-9	ND	0.002	--

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**TEST RESULTS**

Test Item	Cas No.	Result (1) (mg/kg)	Reporting Limit (mg/kg)	Permissible Limit (mg/kg)
p-Anisidine	104-94-9	ND	0.002	--
3,4-dichloroaniline	95-76-1	ND	0.002	--
1-Naphthylamine	134-32-7	ND	0.002	--
2,4-Diaminodiphenylmethane	1208-52-2	ND	0.002	--
2-Methyl-4-nitroaniline	99-52-5	ND	0.002	--
Primary Aromatic Amine (Other)	--	ND	--	0.01 (Sum)
Comment	--	PASS	--	--

**Sample Description:**

1. Clear plastic bag (inside)

**Note:**

1. mg/kg = milligram per kilogram of foodstuff in contact with
2. degree C = degree Celsius
3. ND = Not Detected

**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 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 but not included in the NSC-ONSC accreditation scope.
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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