





SGS (Thailand) Limited

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**Test Report No.** 5505935 Date : 2-Mar-2023

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/LLDPE (S)
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. : 5763711

Sample Condition : Sample is contained in a plastic bag.

Quantity Submitted : 1 pack

Sample Receiving Date : 21-Feb-2023

Testing Period : 21-Feb-2023 to 2-Mar-2023

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

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**Test Report No.** Date: 2-Mar-2023 5505935

## **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

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

PASS
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.

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



**Rutchuporn Mounasom** 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 1186-2:2022 Test methods for overall migration in vegetable oils

EN 1186-3:2022 Test methods for overall migration in evaporable simulants

Simulant Used	Test Condition	Result (1) (mg/dm2)	Reporting Limit (mg/dm2)	Permissible Limit (mg/dm2)
3% Acetic Acid (W/V)*	1 hour at 100 Degree C	ND	3.0	10
10% Ethanol (V/V)*	1 hour at 100 Degree C	ND	3.0	10
20% Ethanol (V/V)*	1 hour at 100 Degree C	ND	3.0	10
Rectified Olive Oil**	1 hour at 100 Degree C	ND	3.0	10
Comment		PASS		

#### Sample Description:

1. Clear plastic bag with multicolor printed (inside)

#### Note

- 1. mg/dm2 = milligram per square decimeter
- 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 20 dm2 per 1 kg of foodstuff in contact with.
- 3. Test(s) marked \* on this report are 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 but not included in the NSC-ONSC accreditation scope.

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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: 100 Degree C for 1 hour (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 with multicolor printed (inside)

- 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 dm2 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.

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**TEST RESULTS** 



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# 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: 100 degree C for 1 hour (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 Report No. 5505935 **TEST RESULTS** 

Date: 2-Mar-2023

### 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-Phenylendiamine	95-54-5	ND	0.002	
m-Chloroaniline	108-42-9	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)
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-aminoterepthalate	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 with multicolor printed (inside)

- 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 dm2 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.

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## **SAMPLE/ATTACHMENT PICTURE**



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