

**Test Report No.** 4517985

**Date :** 24-Feb-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 / ALU15 / 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. : 4668524  
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 24-Feb-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
(1) Notification of the Ministry of Public Health (No.295) B.E. 2548 (2005) : Qualities or standard for container made from plastic a) Polyethylene (PE)	--
1. Lead content	PASS
2. Cadmium content	PASS
3. Heavy metal (as lead) in 4% concentrated acetic acid extraction	PASS
4. Quantity of potassium Permanganate Consumed	PASS
5. Residue after Evaporation Test	PASS
6. Migration of color Extraction	PASS
(2) Additional request by client's	
1. Antimony in 4% concentrated acetic acid extraction	SEE RESULT
2. Germanium in 4% concentrated acetic acid extraction	SEE RESULT

Remark: 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**

**(1) Notification of the Ministry of Public Health (No.295) B.E. 2548 (2005) : Qualities or standard for container made from plastic.**

**a) Polyethylene (PE)**

**Qualities and standard of plastic**

Method : With reference to TIS 656: 2556. Analysis was performed by ICP-OES.

Details	Result (1) (mg/kg)	Limit of Quantitative (mg/kg)	Permissible Limit (mg/kg)
Lead content	<2	2.0	100
Cadmium content	<2	2.0	100

Sample Description :

1. Aluminium foil/ clear plastic

Note :

1. mg/kg = milligram per kilogram
2. < = Less than

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**TEST RESULTS**

**Qualities and standard of dissemination**

Method : With reference to TIS 656: 2556.

Details	Test Condition	Result (1) (mg/dm <sup>3</sup> )	Limit of Quantitative (mg/dm <sup>3</sup> )	Permissible Limit (mg/dm <sup>3</sup> )
Heavy metal (calculated as lead) in 4% concentrated acetic acid extraction	30 minute at 60 degree C	<1	--	1
Potassium permanganate used for reaction in water extraction	30 minute at 60 degree C	<1	1.0	10
Residue substances which is evaporate in water	30 minute at 60 degree C	<3	3.0	30
Residue substances which is evaporate in 4% concentrated acetic acid	30 minute at 60 degree C	<3	3.0	30
Residue substances which is evaporate in 20% concentrated alcohol	30 minute at 60 degree C	<3	3.0	30
Residue substances from volatile matters in normal heptane	Room temperature (1 hr. at 25 degree C)	<3	3.0	150

**Sample Description :**

1. Clear plastic (inside)

**Note :**

1. mg/dm<sup>3</sup> = milligram per cubic decimeter
2. Degree C = degree Celsius
3. < = Less than

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**TEST RESULTS**

**Qualities and standard of dissemination**

Test Method : With reference to TIS 655 -1 : 2553

Details	Test Condition	Result (1)	Permissible Limit
Migration of color extract by water	30 minute at 60 degree C	Negative (See Note 2)	Negative
Migration of color extract by 4% concentrated acetic acid	30 minute at 60 degree C	Negative (See Note 2)	Negative
Migration of color extract by 20% concentrated alcohol	30 minute at 60 degree C	Negative (See Note 2)	Negative
Migration of color extract by normal heptanes	Room temperature (1 hr. at 25 degree C)	Negative (See Note 2)	Negative

Sample Description :

1. Clear plastic (inside)

Note :

1. Degree C = degree Celsius
2. "Negative" mean it's not presence of color migration/ "Positive" mean it's presence of color migration

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**TEST RESULTS**

**(2) Additional request by client's**

**Qualities and standard of dissemination**

Method : With reference to TIS 656: 2556

Details	Test Condition	Result (1) (mg/dm3)	Limit of Quantitative (mg/dm3)	Permissible Limit** (mg/dm3)
Antimony	30 minute at 60 degree C	<0.02	0.02	0.05
Germanium	30 minute at 60 degree C	<0.02	0.02	0.10

**Sample Description :**

1. Clear plastic (inside)

**Note :**

1. mg/dm3 = milligram per cubic decimeter
2. Degree C = degree Celsius
3. < = Less than
4. \*\*Permissible limit is quoted from Notification of the Ministry of Public Health (No.295) B.E. 2548 (2005) :Qualities or standard for container made from plastic ,Polyethylene terephthalate (PET)

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SAMPLE/ATTACHMENT PICTURE



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

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