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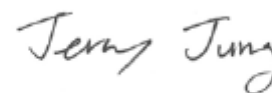
The following sample(s) was/were submitted and identified by/on behalf of the client as:-

**SGS File No.** : AYAA18-20921  
**Product Name** : Absorbent Masterbatch  
**Item No./Part No.** : APS  
**Received Date** : 2018. 04. 03  
**Test Period** : 2018. 04. 03 to 2018. 04. 20  
**Test Result(s)** : For further details, please refer to following page (s)

**Result Summary** :

Test Requested	Conclusion
<b>1. Commission Regulation (EU) No 10/2011 with Amendments and Article 3 of European Regulation No. 1935/2004.</b>	-
a) Plastic – Overall Migration	<b>PASS</b>
b) Plastic – Specific Migration of Heavy Metals	<b>PASS</b>
<b>2. German Food, Articles of Daily Use and Feed Code of September 1, 2005 (LFGB), Section 30 &amp; 31 with Amendments.</b>	-
a) Sensorial examination odour and taste test	<b>PASS</b>

SGS KOREA CO., LTD.



Jerry Jung/Technical Manager

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# Test Report

No. F690101/LF-CTSAYAA18-20921

Issued Date: 2018. 04. 20

Page 2 of 5

Sample No. : AYAA18-20921.001  
Sample Description : Absorbent Masterbatch  
Item / Part No. : APS  
Material : PS

## Test result(s) :

### 1. European Commission Regulation (EU) No 10/2011 with Amendments

#### a) Plastic – Overall migration

Method: With reference to EN 1186-1:2002 for selection of conditions and test methods;

EN 1186-3:2002 aqueous food simulants by total immersion method;

EN 1186-14:2002 Substitute test

Simulant Used	Test Condition	Result (mg/dm <sup>2</sup> )	Detection Limit (mg/dm <sup>2</sup> )	Permissible (mg/dm <sup>2</sup> )
95% Ethanol(V/V) Aqueous Solution	20 °C for 10 days	N.D	3.0	10
Isooctane	20 °C for 1 day	N.D	3.0	10
<b>Comment</b>	--	<b>PASS</b>	--	--

Note : 1. mg/dm<sup>2</sup> = milligram per square decimeter

2. °C = degree Celsius

3. N.D = Not Detected

4. Permissible Limit is according to Commission Regulation (EU) No 10/2011 of January 2011 with amendments.

#### Remark:

1. Analytical tolerance of aqueous simulants is 1mg/dm<sup>2</sup> or 6mg/kg
2. Analytical tolerance of fatty food simulants is 3mg/dm<sup>2</sup> or 20mg/kg
3. Test condition & simulant were specified by client.

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# Test Report

No. F690101/LF-CTSAYAA18-20921

Issued Date: 2018. 04. 20

Page 3 of 5

Sample No. : AYAA18-20921.001  
 Sample Description : Absorbent Masterbatch  
 Item / Part No. : APS  
 Material : PS

## b) Plastic – Specific migration of Heavy metals

Method: With reference to EN 13130-1:2004. Analysis was performed by ICP-MS / ICP-OES.

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

Test Condition: 20 °C for 10 days

Test Item	Result (mg/kg)	Reporting Limit (mg/kg)	Permissible (mg/kg)
Specific Migration of Barium	N.D	0.3	1
Specific Migration of Cobalt	N.D	0.01	0.05
Specific Migration of Copper	N.D	0.3	5
Specific Migration of Iron	N.D	0.3	48
Specific Migration of Lithium	N.D	0.5	0.6
Specific Migration of Manganese	N.D	0.3	0.6
Specific Migration of Zinc	N.D	0.5	5
Specific Migration of Aluminium	N.D	0.1	1
Specific Migration of Nickel	N.D	0.02	0.02
<b>Comment</b>	<b>PASS</b>	--	--

Note : 1. mg/kg = milligram per kilogram of foodstuff in contact with

2. °C = degree Celsius

3.N.D == Not Detected.

4.Permissible Limit is according to Commission Regulation (EU) No 10/2011 of January 2011 with amendments.

Remark : 1. Test condition & simulant were specified by client

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No. F690101/LF-CTSAYAA18-20921

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Page 4 of 5

Sample No. : AYAA18-20921.001  
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 Item / Part No. : APS  
 Material : PS

## 2. German Food, Articles of Daily Use and Feed Code of September 1, 2005 (LFGB), Section 30 & 31 with Amendments

a) Sensorial examination of odour and taste

Test Method: With reference to DIN10955: 2004

Migration condition: 20 °C for 10 days

Test Simulant: Water

The number of panelists: 6

Test Results :

Test Simulant	Test Item	Result	Maximum Permissible Limit
Water	Sensorial examination odour	0.5	2.5
	Sensorial examination taste	1.0	2.5
<b>Comment</b>		<b>PASS</b>	--

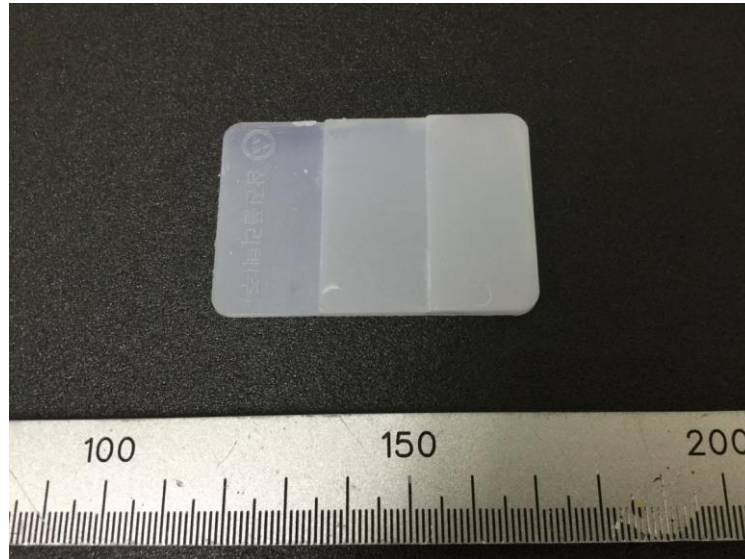
Note : 1. Intensity scale (rounded at 0.5):

- 0 – no perceptible difference
- 1 – just perceptible difference
- 2 – slight difference
- 3 – marked difference
- 4 – strong difference

2. Permissible Limit is according to LFGB with its amendment, Section 30 and 31, and Regulation (EC) No 1935/2004 of The European Parliament and of the Council of 27 October 2004.

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Picture of Samples as Received:



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

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