

GS CALTEX CORPORATION

359, Expo-ro,
Yuseong-gu, Daejeon,
Korea



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

- SGS File No.** : AYAR24-00362A
- Sample Description** : HIPRENE M560
- Style no./ Item no.** : -
- Received Date** : 2024. 02. 14
- Test Period** : 2024. 02. 14 to 2024. 03. 08
- Test Method & Results** : Please refer to next page(s).
- Supersedes /Referral** : This test report is separated from the SGS job number, "F690101/LF-CTSAYAR24-00362" by client's request
- Report Comments** : The results shown in this test report refer only to the sample(s) tested unless otherwise stated.
This test report is not related to Korea Laboratory Accreditation and KS Q ISO/IEC 17025.
Verify for authenticity and validity in web site : <https://eecloud.sgs.com/index.aspx>
- Test Requested** : Please refer to the result summary.
Test Parameter(s) was/were selected by client.

Result Summary :

Test Requested	Conclusion
Commission Regulation (EU) No 10/2011	-
Overall Migration	PASS
Specific Migration of Heavy Metals	PASS
Article 3 of European Regulation No. 1935/2004	-
Sensorial examination odour and taste test	PASS

SGS Korea Co., Ltd.



Karls Park / Technical Manager

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Results :

Testing as per Commission Regulation (EU) No 10/2011

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 methods (1st migration);
EN 1186-3:2022 Test methods for overall migration in evaporable simulants

Simulant Used	Test Condition	Result (mg/dm ²)	LOQ (mg/dm ²)	Permissible Limit (mg/dm ²)
3% Acetic Acid(W/V) Aqueous Solution	40 °C for 10 days	ND	3	10
Comment	--	PASS	--	--

Sample description : White plastic sheet (HIPRENE M560)

Note:

- (1) mg/dm² = milligram per square decimeter
- (2) °C = degree Celsius
- (3) ND = Not Detected (<LOQ)
- (4) LOQ = Limit of quantification
- (5) Permissible Limit is according to Commission Regulation (EU) No 10/2011 of January 2011 with amendments.

Remark:

- (1) Analytical tolerance of evaporable simulants is 2 mg/dm²
- (2) Analytical tolerance of olive oil simulant is 3 mg/dm²
- (3) The ratio of surface area to volume is 10 dm²/kg of foodstuff in contact with.
- (4) Test condition & simulant were specified by client.

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Testing as per Commission Regulation (EU) No 10/2011

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)

Test Condition: 40 °C for 10 days (1st migration)

Test Item	Result (mg/kg)	LOQ (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
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	0.05
Specific Migration of Gadolinium	ND	0.025	
Specific Migration of Lanthanum	ND	0.025	
Specific Migration of Terbium	ND	0.025	
Comment	PASS	--	--

Sample description : White plastic sheet (HIPRENE M560)

Note:

- (1) mg/kg = milligram per kilogram of foodstuff in contact with.
- (2) °C = degree Celsius
- (3) ND = Not Detected (<LOQ (Limit of quantification))
- (4) Permissible Limit is according to Commission Regulation (EU) No 10/2011 of 14 January 2011 with amendments.

Remark:

- (1) The ratio of surface area to volume is 6 dm²/kg of foodstuff in contact with.
- (2) Test condition & simulant were specified by client.

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Article 3 of European Regulation No. 1935/2004

Sensorial examination odour and taste test

Method: With reference to DIN10955: 2023

Migration condition: 40 °C for 10 days

Test Simulant	Test Item	Result	Maximum Permissible Limit
Water	Sensorial examination odour	0.5	2.5
	Sensorial examination taste	0.5	2.5
Comment	--	PASS	--

Sample description : White plastic sheet (HIPRENE M560)

Note:

(1) Intensity scale (rounded at 0.5):

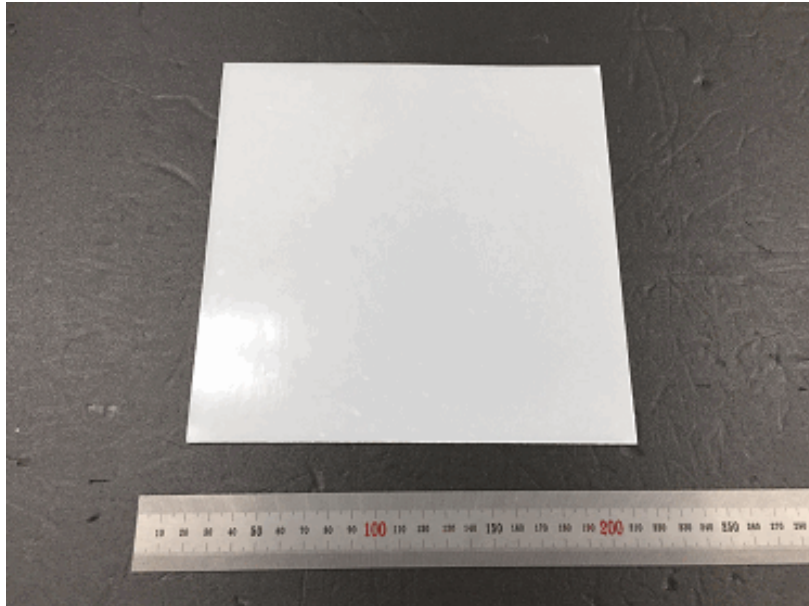
- 0 – no perceptible difference
- 1 – just perceptible difference
- 2 – slight difference
- 3 – marked difference
- 4 – strong difference

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

(3) The ratio of surface area to volume is 10 dm²/kg of foodstuff in contact with.

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Picture of Sample as Received :

**AYAR24-00362A**

*** End of Report ***

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