HAMILTON

AB 079

REPORT OF ANA LYSIS No. 1545011/22/GDY

Client	Sample description (according to declaration of Client)
SUPR AVIS S.A UL. NOWOTORUŃSKA 56 85-840 BYDGOSZCZ	SUPR ACASE GML casing, a representati ve of: - SUPR ACASE GM X, GMS - SUPR ACASE GOL, G OX, - SUPR ACASE SMS, SMT
Sample received: 2022 -03-03	Sample without any visible damages
Analysis completed (the date of performance of the laboratory activity): 2022 -04-11	Order of 2022 -02-22
Report dated: 2022 -04-11	The samples were delivered by Client

Test	Method	Food simulant	Test conditions	Unit	Result	Criteria	Parame ter compliant / non-compliant
* Sensory analysis - scoring method [1]	DIN 10955:2004						
Odour		water	4 hours at 100°C		0,0	-	-
Flavour		water	4 hours at 100°C		1,5	-	-
* Overall migration - food simulant A [2][3][4]	PN-EN 1186-1:2005	10% ethanol	4 hours at 100°C	mg/dm²	3,7 (3,9; 3,5; 3,7) ± 1,3	≤ 10	compliant
* Overall migration - food simulant D2 [2][4][5][6][7]	PN-EN 1186-1:2005	olive oil	2 hours at 130°C + 10 days at 40°C	mg/dm²	< 5,0 (2,1; 2,5; 2,8)	≤ 10	compliant
* Specific migration of elements (Annex II Commission Regulation (EU) No 10/2011) [2][6][8]	PB-204 ed. VI of 05.10.2020						
Aluminum		3% acetic acid	8 hours at 100°C + 10 days at 60°C	mg/kg	< 0,045	≤ 1	compliant
Iron		3% acetic acid	8 hours at 100°C + 10 days at 60°C	mg/kg	0,0059 ± 0,0012	≤ 48	compliant
Antimony		3% acetic acid	8 hours at 100°C + 10 days at 60°C	mg/kg	< 0,0030	≤ 0,04	compliant
Cobalt		3% acetic acid	8 hours at 100°C + 10 days at 60°C	mg/kg	< 0,0030	≤ 0,05	compliant
Copper		3% acetic acid	8 hours at 100°C + 10 days at 60°C	mg/kg	< 0,0030	≤ 5	compliant

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* Test method accredited; # Test performed by external provider

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Magnesium	3% acetic acid	8 hours at 100°C + 10 days at 60°C	mg/kg	< 0,030	≤ 60	compliant
Manganese	3% acetic acid	8 hours at 100°C + 10 days at 60°C	mg/kg	< 0,0030	≤ 0,6	compliant
Zinc	3% acetic acid	8 hours at 100°C + 10 days at 60°C	mg/kg	< 0,0030	≤ 5	compliant
Barium	3% acetic acid	8 hours at 100°C + 10 days at 60°C	mg/kg	< 0,0030	≤ 1	compliant
Lithium	3% acetic acid	8 hours at 100°C + 10 days at 60°C	mg/kg	< 0,0030	≤ 0,6	compliant
Arsenic	3% acetic acid	8 hours at 100°C + 10 days at 60°C	mg/kg	< 0,0012	≤ 0,01	compliant
Lead	3% acetic acid	8 hours at 100°C + 10 days at 60°C	mg/kg	< 0,0030	≤ 0,01	compliant
Chromium	3% acetic acid	8 hours at 100°C + 10 days at 60°C	mg/kg	< 0,0030	≤ 0,01	compliant
Cadmium	3% acetic acid	8 hours at 100°C + 10 days at 60°C	mg/kg	< 0,0012	≤ 0,01	compliant
Nickel	3% acetic acid	8 hours at 100°C + 10 days at 60°C	mg/kg	< 0,0030	≤ 0,02	compliant
Potassium	3% acetic acid	8 hours at 100°C + 10 days at 60°C	mg/kg	< 0,079	≤ 60	compliant
Sodium	3% acetic acid	8 hours at 100°C + 10 days at 60°C	mg/kg	0,553 ± 0,111	≤ 60	compliant
Calcium	3% acetic acid	8 hours at 100°C + 10 days at 60°C	mg/kg	< 0,047	≤ 60	compliant
Mercury	3% acetic acid	8 hours at 100°C + 10 days at 60°C	mg/kg	< 0,0030	≤ 0,01	compliant
Europium	3% acetic acid	8 hours at 100°C + 10 days at 60°C	mg/kg	< 0,0030	≤ 0,05	compliant

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Gadolinium		3% acetic acid	8 hours at 100°C + 10 days at 60°C	mg/kg	< 0,0030	≤ 0,05	compliant
Lanthanum		3% acetic acid	8 hours at 100°C + 10 days at 60°C	mg/kg	< 0,0030	≤ 0,05	compliant
Terbium		3% acetic acid	8 hours at 100°C + 10 days at 60°C	mg/kg	< 0,0030	≤ 0,05	compliant
Sum of lanthanide - Eu, Gd, La, Tb		3% acetic acid	8 hours at 100°C + 10 days at 60°C	mg/kg	< 0,05	≤ 0,05	compliant
* Specific migration - caprolactam [C AS No. 105-60-2] 2)8)9)	PN-EN 13130-1:2006 CEN/TS 13130-16: 2005	10% ethanol	8 hours at 100°C + 10 days at 60°C	mg/kg	4,9 ± 1,5	≤ 15 (4)	compliant
* Specific migration - caprolactam [C AS No. 105-60-2] 2)6)8)9)	PN-EN 13130-1:2006 CEN/TS 13130-16: 2005	olive oil	2 hours at 130°C + 10 days at 60°C	mg/kg	< 1,5	≤ 15 (4)	compliant
* Specific migration - Octadecyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl) propionate [C AS no.: 2082-79-3; Ref. no.: 68320] 2)8)	PN-EN 13130-1:2006; PB-165/ HPLC ed. I of 06.08.2012	95% ethanol	8 hours at 60°C	mg/kg	0,6 ± 0,2	≤ 6	compliant
# Specyfic migration - Maleic anhydride [C AS No.: 108-31-6; Ref. No.: 19960]	PB-5.6 ed. 10 of 10.06.2013	3% acetic acid	8 hours at 100°C + 10 days at 60°C	mg/kg	<0,01	≤60	compliant
* Specific migration - terephtalic acid and isophtalic acid [Ref. No 24910; 19150] 2)6)8)9)	PN-EN 13130-1:2006; PN-EN 13130-2:2007						
Specific migration - Terephtalic acid [Ref. No 24910]		95% ethanol	8 hours at 60°C	mg/kg	< 0,5	≤ 7,5 (28)	compliant
Specific migration - Isophtalic acid [Ref. No 19150]		95% ethanol	8 hours at 60°C	mg/kg	< 0,5	≤ 5 (27)	compliant
# Specific migration - 1-amino-3-aminomethyl-3,5,5-trimethylcyclohexane [C AS No: 2855-13-2; Ref.: 12670] 2)	HPLC-FLD	95% ethanol	8 hours at 60°C	mg/kg	not detected	≤6,0	compliant
* Specific migration - non-intentionally added substances (NI AS) 8)10)11)12)	PB-308/GC wyd. III z dn. 15.05.2017						
Caprolactam [C AS: 105-60-2; RT: 13.7 min; MF: 97 %] 2)9)		95% ethanol	8 hours at 60°C	mg/kg	8,31 ± 4,16	≤ 15 (4)	compliant

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1,8-Diazacyclotetradecane -2,9-dione [CAS: 5776-79-4; RT: 25.0 min; MF: 94 %]		95% ethanol	8 hours at 60°C	mg/kg	2,19	-	-
9-Octadecenamide, (Z) - [CAS: 301-02-0; RT: 25.5 min; MF: 98 %] [2)]		95% ethanol	8 hours at 60°C	mg/kg	2,58 ± 1,29	≤ 60	compliant
Preparation of the simulant to specific migration test - food simulant A [13)]	PN-EN 13130-1:2006						
Food contact surface area/food simulant volume		10% ethanol	8 hours at 100°C + 10 days at 60°C	dm^2/ml	0,96/95	-	-
Preparation of the simulant to specific migration test - food simulant B [13)]	PN-EN 13130-1:2006						
Food contact surface area/food simulant volume		3% acetic acid	8 hours at 100°C + 10 days at 60°C	dm^2/ml	0,96/95	-	-
Preparation of the simulant to specific migration test - food simulant D2 [13)]	PN-EN 13130-1:2006						
Food contact surface area/food simulant volume		olive oil	2 hours at 130°C + 10 days at 40°C	dm^2/ml	0,43/45	-	-
Preparation of the simulant to specific migration test - substitute food symulant D2e [13)]	PN-EN 13130-1:2006						
Food contact surface area/food simulant volume		95% ethanol	8 hours at 60°C	dm^2/ml	0,96/95	-	-

[1)] The scale used for the odour/flavour assessment:
0 - no noticeable deviation of the odour /flavour,
1 - barely noticeable deviation of the odour /flavour (hard to define yet),
2 - weak deviation of the odour /flavour,
3 - significant deviation of the odour /flavour,
4 - strong deviation of the odour /flavour (this intensity does not determine the probable maximum).

[2)] Commission Regulation (EU) No 10/2011 of 14 January 2011 on plastic materials and articles intend ed to come into contact w ith food which is a specific measure within the meaning of Article 5(1) of Regulation (EC) No 1935/2004 of th e European Parliament and of the Council of 27 October 2004 on materials and articles intended to come into contact with food and rep ealing Directives 80/590/ EEC and 89/109/EEC (OJ L12 of 15.1.2011, as amended).

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[3] PN -EN 1186 -5:2005

[4] Food contact surface area/food simulant volume: 0,43 dm^2/45 ml.

[5] Accredited measuring range: (5 -100) mg/dm^2.

[6] "<" indicates below the limit of quantification of the method.

[7] PN -EN 1186 -4:2002

[8] Migration results expressed in mg/kg applying the conventional S/V ratio of 6 dm2 per kg of food.

[9] Criterium concerns not only to analysed compound(s). There was given group restriction number in brackets, near criterium. Migration of other compounds was not taken into account.

[10] According to Article 19 of Regulation (EU) No 10/2011, in case of unevaluated substances a risk assessment should be perf ormed.

[11] In the applied GC -MS screening method (DB -5 column, detector in EI mode) all identified substan ces were compared with th e NIST14 library with Match Factor over 70%.
The method is semi-quantitative and cannot be treated as equivalent to specific migration.

[12] RT (Retention Time); MF (Match Factor).

[13] PN -EN 13130 -1:2006 p.17

Test: Specific migration - maleic anhydride [C AS no.: 108 -31-6; Ref. no.: 19960] was performed by e xternal provider Sieć Bad awcza Łukasiewicz - Instytut Przemysłu Skórzanego, Łódź, Polska
Test: Specific migration - 1-amino-3-aminomethyl-3,5,5-trimethylcyclohexane [C AS No: 2855 -13-2; REF.: 12670] was performed by external provider SQTS - Swiss Quality Testing Services, Dietikon 1, Szwajcaria

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The results relate to the analysed samples only. Unless otherwise specified given expanded measurem ent uncertainty was estim ated for the coverage fac tor k=2 at 95% confidence level. Sampling uncertainty has not been taken into consideration. Unless otherwise specified when conformity is stated J.S. Hamilton Poland Sp. z o. o. applies the simple acc eptance decision rule in accordance with IL AC-G8:09/2019. This Report cannot be reproduced partially without a prior written consent of J.S. Hamilton Poland Sp. z o.o. Responsibility of J. S. Hamilton Poland Sp. z o.o. is restricted exclus ively to the results and statements presented in original copy of the Report. The service confirmed by this Report is subject to the Gen eral Terms and Conditions of Services of J.S. Hami lton Poland Sp. z o.o. pu blished on www.hamilton.c om.pl

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