

Report No. 報告號: 238523293e10 001

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Client 客戶: FORMOSA PLASTICS CORPORATION/台灣塑膠工業股份有限公司  
No. 1, Formosa Industrial Complex, Mailiao, Yunlin 638, Taiwan, R.O.C./  
台灣 雲林縣麥寮鄉 638 台塑工業園區 1 號

Test item(s) 測試樣品: 1 material(s) of plastic/塑膠, white/白色

Identification/Model No(s): 台塑烯射出級線性低密度聚乙烯/Taisox LLDPE Injection Grade Resin /  
樣品描述/規格: 3470, 3490

Sample obtaining method: Sending by customer  
樣品獲取方式:

Condition at delivery: Test item complete and undamaged.  
樣品接收狀態:

Sample receiving date: 2021-12-03  
收樣日期:

Testing period: 2021-12-03 – 2022-01-14  
測試週期:

Place of testing: TÜV Rheinland Hong Kong Ltd.  
測試地點:

**Test specification 測試要求:**

Performed parameter(s) for the compliance with the following regulations concerning materials in contact with foodstuff:  
Commission Regulation (EU) No.10/2011 and its amendments

**Test result 測試結果:**

Pass/合格

Other information: Single-use product.  
其他信息:

The test sample is model no. 3470. All the above models are the same chemical composition/color/manufacturing process according to client's declaration dated on 2021-12-07.

For and on behalf of  
TÜV Rheinland Taiwan Ltd.

  
Arthur Cheng/Project Manager  
Name/Position 姓名/職位



2022-01-20  
Date 日期

Sample information is provided by customer. Test result is drawn according to the kind and extent of tests performed. This test report relates to the above mentioned test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any safety mark on this or similar products. "Decision Rule" document announced in our website (<https://www.tuv.com/landingpage/en/qm-gcn/>) describes the statement of conformity and its rule of enforcement for test results are applicable throughout this test report.  
樣品信息由客戶提供。測試結果根據所做測試的種類和範圍而得出。本測試報告僅對來樣負責。未經本測試中心許可，測試報告不得部分複製。不能根據此報告在上述產品或類似產品上使用任何安全標誌。本測試報告中，描述符合性聲明所應用的判定規則發佈在我司官網 <https://www.tuv.com/landingpage/en/qm-gcn/>。

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第2頁共7頁**1. Sensorial examination / 感官測試**

Test method / 測試方法: It is examined to the extent of food simulant being used, which comes into contact with the product, undergoes detectable changes in taste and smell.

For this purpose, the food simulant was stored in the product under the below mentioned time and temperature. Afterwards, the food simulant was examined by an appropriate number of tasters with regard to any divergence in smell and taste. Another test sample, which was used as a reference, was treated by the same way except that it had no contact with the product to be tested.

*Before testing, the product had been cleaned according to the product's instruction manual or in the absence of such manual, by normal household cleaning.*

The test is carried out on the basis of ISO 13302 by paired comparison test:/  
此測試參考 ISO 13302 進行成對比較。

Evaluation scheme / 評估方案:

- 0 = No discernible deviation / 無可識別差異
- 1 = Barely discernible deviation / 近乎無可識別差異
- 2 = Weak deviation / 輕微差異
- 3 = Clear deviation / 明顯差異
- 4 = Strong deviation / 強烈差異

Limit/限值: 3 (failed) / 3 (不合格)

The following food simulants and conditions were applied per client's request.

<b>Food simulant / 食物模擬劑</b>	<b>Test duration / Temperature 測試時間 / 溫度</b>
Water / 水	10 day(s)/天 / 40 °C

Sample/樣品明細	台塑烯射出級線性低密度聚乙烯 /Taisox LLDPE Injection Grade Resin
Material/材質	plastic/塑膠 / white/白色
Lab.-No./實驗室編號	TCL211203-14
<b>Parameter:</b>	<b>Result</b>
Transfer of Smell/氣味的轉移:	0
Transfer of Taste/味道的轉移:	0

The examined item does meet the requirement/此測試項目符合要求

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第3頁共7頁**2. Global Migration/總遷移量**

Test method / 測試方法: The migratory behaviour was examined with reference to Commission Regulation (EU) No. 10/2011 and its amendments

Limit / 測試要求: With reference to Commission Regulation (EU) No 10/2011 and its amendments

The following food simulant and condition were applied per client's request:

<b>Food simulant / 食物模擬劑</b>	<b>Test duration / Temperature 測試時間 / 溫度</b>
Acetic acid 3 % / 3% 醋酸	10 day(s)/天 / 40 °C
Ethanol 95 % / 95 %乙醇	10 day(s)/天 / 40 °C
Isooctane / 異辛烷	2 day(s)/天 / 20 °C

Sample/樣品明細	台塑烯射出級線性低密度聚乙烯/Taisox LLDPE Injection Grade Resin		
Material/材質	plastic/塑膠 / white/白色		
Lab.-No./實驗室編號	TCL211203-14		
<b>Parameter/測試項目</b>	<b>Unit/單位</b>	<b>Result/結果</b>	<b>Limit/限值</b>
Acetic acid 3 % / 3% 醋酸	mg/dm <sup>2</sup>	3	10
Ethanol 95 % / 95 %乙醇	mg/dm <sup>2</sup>	4	10
Isooctane / 異辛烷	mg/dm <sup>2</sup>	6	10

Abbreviations: mg/dm<sup>2</sup> = Milligram per square decimetre  
< = Less than

The examined item does meet the requirement/此測試項目符合要求

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第4頁共7頁**3. Specific Migration of Metals from Plastic/塑料中重金屬的特定遷移**

Test method / 測試方法: The migratory behaviour was examined with reference to Commission Regulation (EU) No. 10/2011 and its amendments. Determination by ICP-MS.

Limit / 測試要求: With reference to Commission Regulation (EU) No 10/2011 and its amendments

The following food simulant and condition was applied per client's request:

<b>Food simulant / 食物模擬劑</b>	<b>Test duration / Temperature 測試時間 / 溫度</b>
Acetic acid 3 % / 3% 醋酸	10 day(s)/天 / 40 °C

Sample/樣品明細	台塑烯射出級線性低密度聚乙烯/Taisox LLDPE Injection Grade Resin			
Material/材質	plastic/塑膠 / white/白色			
Lab.-No./實驗室編號	TCL211203-14			
Parameter/測試項目	Unit/單位	RL	Result/結果	Limit/限值
Aluminium	mg/kg	0.1	n.d.	1
Antimony	mg/kg	0.01	n.d.	0.04
Arsenic	mg/kg	0.01	n.d.	n.d.
Barium	mg/kg	0.1	n.d.	1
Cadmium	mg/kg	0.002	n.d.	n.d.
Total Chromium	mg/kg	0.01	n.d.	n.d.
Cobalt	mg/kg	0.01	n.d.	0.05
Copper	mg/kg	0.5	n.d.	5
Iron	mg/kg	5	n.d.	48
Lead	mg/kg	0.01	n.d.	n.d.
Lithium	mg/kg	0.1	n.d.	0.6
Manganese	mg/kg	0.1	n.d.	0.6
Mercury	mg/kg	0.01	n.d.	n.d.
Nickel	mg/kg	0.01	n.d.	0.02
Zinc	mg/kg	1	n.d.	5
Europium	mg/kg	0.01	n.d.	-
Gadolinium	mg/kg	0.01	n.d.	-
Lanthanum	mg/kg	0.01	n.d.	-
Terbium	mg/kg	0.01	n.d.	-
Sum of Lanthanide substances	mg/kg	0.01	n.d.	0.05
Ammonium	mg/kg	10	n.d.	-
Calcium	mg/kg	10	n.d.	-
Magnesium	mg/kg	10	n.d.	-
Potassium	mg/kg	10	n.d.	-
Sodium	mg/kg	10	n.d.	-

Abbreviations: RL = Reporting limit  
mg/kg = Milligram per kilogram  
n.d. = Not detected (< Reporting limit)  
< = Less than

Remark:

- \*1 Single component with an amount below reporting limit was not considered by the calculation of the sum. In the case of all lanthanide substances europium, gadolinium, lanthanum and terbium were not detected, the result is stated n.d.
- \*2 The migration is subject to Article 11(3) and Article 12
- \*3 The examined item does meet the requirement/此測試項目符合要求

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第5頁共7頁**4. Specific Migration of Primary Aromatic Amines/初級芳香胺的特定遷移**

Test method / 測試方法: The migratory behaviour is examined with reference to Commission Regulation 10/2011 and its amendments. Determination by LC-MS/MS.

Limit / 測試要求: Commission Regulation (EU) No 10/2011 and its amendments

The following food simulant and condition was applied per client's request:

Food simulant / 食物模擬劑	Test duration / Temperature 測試時間 / 溫度
Acetic acid 3 % / 3% 醋酸	10 day(s)/天 / 40 °C

Sample/樣品明細	台塑烯射出級線性低密度聚乙烯/Taisox LLDPE Injection Grade Resin				
Material/材質	plastic/塑膠 / white/白色				
Lab.-No./實驗室編號	TCL211203-14				
Parameter/測試項目	CAS No.	Unit/單位	RL	Result/結果	Limit/限值
2,4,5-Trimethylaniline	137-17-7	mg/kg	0.002	n.d.	n.d.
2,4-Diaminoanisole	615-05-4	mg/kg	0.002	n.d.	n.d.
2-Naphthylamine	91-59-8	mg/kg	0.002	n.d.	n.d.
3,3'-Dichlorobenzidine	91-94-1	mg/kg	0.002	n.d.	n.d.
4,4'-methylene-bis-(2-chloro-aniline)	101-14-4	mg/kg	0.002	n.d.	n.d.
4,4'-methylenedianiline	101-77-9	mg/kg	0.002	n.d.	n.d.
4,4'-oxydianiline	101-80-4	mg/kg	0.002	n.d.	n.d.
4,4'-thiodianiline	139-65-1	mg/kg	0.002	n.d.	n.d.
4-aminoazobenzene	60-09-3	mg/kg	0.002	n.d.	n.d.
4-aminobiphenyl	92-67-1	mg/kg	0.002	n.d.	n.d.
4-chloro-o-toluidine	95-69-2	mg/kg	0.002	n.d.	n.d.
o-anisidine	90-04-0	mg/kg	0.002	n.d.	n.d.
Benzidine	92-87-5	mg/kg	0.002	n.d.	n.d.
4-chloroaniline	106-47-8	mg/kg	0.002	n.d.	n.d.
o-aminoazotoluene	97-56-3	mg/kg	0.002	n.d.	n.d.
p-cresidine	120-71-8	mg/kg	0.002	n.d.	n.d.
4,4'-bi-o-toluidine	119-93-7	mg/kg	0.002	n.d.	n.d.
2,4-toluenediamine	95-80-7	mg/kg	0.002	n.d.	n.d.
o-Toluidine	95-53-4	mg/kg	0.002	n.d.	n.d.
3,3'-Dimethoxybenzidine	119-90-4	mg/kg	0.002	n.d.	n.d.
4,4'-Methylene-di-o-toluidine	838-88-0	mg/kg	0.002	n.d.	n.d.
2-Methyl-5-nitroaniline	99-55-8	mg/kg	0.002	n.d.	n.d.
m-phenylenediamine	108-45-2	mg/kg	0.002	n.d.	n.d.
Benzoguanamine	91-76-9	mg/kg	0.01	n.d.	5
4,4'-Methylenebis-(3-chloro-2,6-diethylaniline)	106246-33-7	mg/kg	0.01	n.d.	0.05
PAAs not listed in entry 43 to Appendix 8 of Annex XVII to Regulation (EC) No 1907/2006 and its amendments					
2,4-Dimethylaniline	95-68-1	mg/kg	0.01	n.d.	--
2-ethoxyaniline	94-70-2	mg/kg	0.01	n.d.	--
3-Amino-4-methoxybenzanilide	120-35-4	mg/kg	0.01	n.d.	--
3-Amino-4-methylbenzamide	19406-86-1	mg/kg	0.01	n.d.	--
4-aminobenzamide	2835-68-9	mg/kg	0.01	n.d.	--
4-chloro-2,5-dimethoxyaniline	6358-64-1	mg/kg	0.01	n.d.	--
4-Ethoxyaniline	156-43-4	mg/kg	0.01	n.d.	--
Dimethyl-2-aminoterephthalate	5372-81-6	mg/kg	0.01	n.d.	--

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2-Chloroaniline	95-51-2	mg/kg	0.01	n.d.	--
5-Chloro-2-methoxyaniline	95-03-4	mg/kg	0.01	n.d.	--
2-Nitroaniline	88-74-4	mg/kg	0.01	n.d.	--
1,3-Diiminoisoindoline	3468-11-9	mg/kg	0.01	n.d.	--
2-Chloro-4-nitroaniline	121-87-9	mg/kg	0.01	n.d.	--
2-Methoxy-4-nitroaniline	97-52-9	mg/kg	0.01	n.d.	--
4-Chloro-3-methoxyaniline	13726-14-2	mg/kg	0.01	n.d.	--
5-Amino-6-methyl-1,3-dihydro-2H-benzimidazol-2-one	67014-36-2	mg/kg	0.01	n.d.	--
2-Aminonaphthalene-1-sulfonic acid	81-16-3	mg/kg	0.01	n.d.	--
4-Aminotoluene-3-sulfonic acid	88-44-8	mg/kg	0.01	n.d.	--
2,5-Dichloroaniline	95-82-9	mg/kg	0.01	n.d.	--
2,4,5-Trichloroaniline	636-30-6	mg/kg	0.01	n.d.	--
2,4-Dinitroaniline	97-02-09	mg/kg	0.01	n.d.	--
Biphenyl-2-ylamine	90-41-5	mg/kg	0.01	n.d.	--
2-Methyl-4-nitroaniline	99-52-5	mg/kg	0.01	n.d.	--
1,5-naphthylenediamine	2243-62-1	mg/kg	0.01	n.d.	--
2,6-Dimethylaniline	87-62-7	mg/kg	0.01	n.d.	--
5-Chloro-2-methylaniline	95-79-4	mg/kg	0.01	n.d.	--
Aniline	62-53-3	mg/kg	0.01	n.d.	--
m-Anisidine	536-90-3	mg/kg	0.01	n.d.	--
3-Chloroaniline	108-42-9	mg/kg	0.01	n.d.	--
o-phenylenediamine	95-54-5	mg/kg	0.01	n.d.	--
p-phenylenediamine	106-50-3	mg/kg	0.01	n.d.	--
2,6-toluenediamine	823-40-5	mg/kg	0.01	n.d.	--
p-toluidine	106-49-0	mg/kg	0.01	n.d.	--
m-toluidine	108-44-1	mg/kg	0.01	n.d.	--
Sum of PAAs	N.A.	mg/kg	0.01	n.d.	n.d.

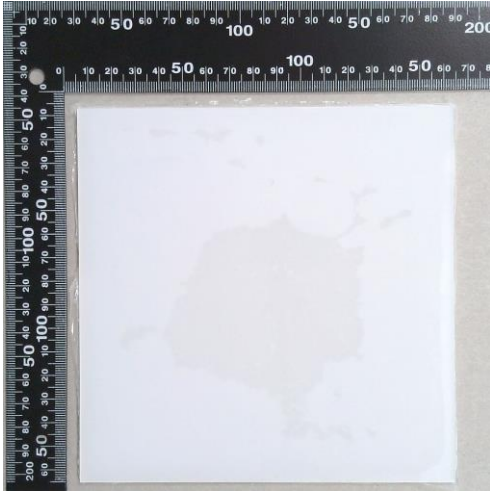
Abbreviations: RL = Reporting Limit  
 mg/kg = Milligram per kilogramm  
 n.d. = Not detected  
 < = Less than  
 N.A. = Not Applicable

Remark: \*1 Single components with an amount of less than reporting limit were not considered by the calculation of the sum. In the case of all of Primary Aromatic Amines were not detected, the result is stated n.d.  
 \*2 The examined item does meet the requirement/此測試項目符合要求

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Test Sample/測試樣品



--- End of Test-Report / 此報告結束---