

# TEST REPORT

REPORT No.: YNHN230821-48688E

Date: September 11, 2023

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**ADC PLASTIC., JSC**  
Rd. D1, Yen My II Industrial Zone, Yen My, Hung Yen, Vietnam

Report on the submitted samples said to be:

Sample Description : Calmast PP1213, PP1819  
 Sample Material : Calmast PP  
 Style/Item No : Calmast PP1213, PP1819  
 Country of Destination : Vietnam  
 Country of Origin : Vietnam  
 Sample quantity : 1  
 Supplier : ADC PLASTIC., JSC  
 Manufacturer : ADC PLASTIC., JSC  
 Sample Receiving Date : August 21, 2023  
 Testing Period : From August 21, 2023 to September 07, 2023  
 Results : Please refer to next page(s).

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**Summary of Test Results:**


**TEST REQUEST**


**Regulation (EC) No.1935/2004 of the European Parliament and Regulation (EU) No 10/2011 and its amendment directives on materials and articles intended to come into contact with food**

- |   |             |
|---|-------------|
| 1. Overall Migration(Tested parts are required partially by client) | <b>Pass</b> |
| 2. Specific Migration of Primary Aromatic Amines (PAAs) Content     | <b>Pass</b> |
| 3. Specific Migration of Heavy Metals of Plastic Content            | <b>Pass</b> |

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Signed for and on behalf of BACL

Checked by:   
 \_\_\_\_\_  
 Nguyen Thanh Hang

Approved by:   
 \_\_\_\_\_  
 William Wei

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**Results:**

Tested part(s):

- (1) Translucent plastic film (PE)

**In accordance with Regulation (EC) No.1935/2004 of the European Parliament and Regulation (EU) No 10/2011 and its amendment directives (EU) 2020/1245 on materials and articles intended to come into contact with food**

**1. Overall Migration(Tested parts are required partially by client)**

Test method: With reference to EN 1186-1:2002 & EN1186-3-2022.

| Item              | Test Condition                        | Unit               | RL  | Results      | Limit |
|-------------------|---------------------------------------|--------------------|-----|--------------|-------|
|                   |                                       |                    |     | (1)          |       |
| Overall Migration | 10% ethanol (w/v) at 40°C for 10 days | mg/dm <sup>2</sup> | 3.0 | N.D.         | 10    |
|                   | 50% ethanol (w/v) at 40°C for 10 days | mg/dm <sup>2</sup> | 3.0 | N.D.         | 10    |
|                   | 95% ethanol (w/v) at 40°C for 10 days | mg/dm <sup>2</sup> | 3.0 | N.D.         | 10    |
|                   | Iso-octane (w/v) at 20°C for 2 days   | mg/dm <sup>2</sup> | 3.0 | N.D.         | 10    |
| <b>Conclusion</b> | /                                     | /                  | /   | <b>Pass*</b> | /     |

Note:

- mg/dm<sup>2</sup> = milligram per square decimeter
- N.D. = Not Detected or less than RL
- RL = Report Limit
- Limit is according to Commission Regulation (EU) No 10/2011 of 14 January 2011 with amendments.
- **Pass\*** = Meet the requirement of Client

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## 2. Specific Migration of Primary Aromatic Amines (PAAs) Content

Test method: Analysis was performed by Liquid Chromatographic/Tandem Mass Spectrometer (LC/MS/MS).

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

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

| No.               | Items  | CAS No.   | Unit  | RL    | Results     | Limit        |   |
|-------------------|--|-----------|-------|-------|-------------|--------------|---|
|                   |  |           |       |       | (1)         |              |   |
| 1                 | Biphenyl-4-ylamine/4-aminobiphenyl/xenylamine                                      | 92-67-1   | mg/kg | 0.002 | N.D.        | 0.002        |   |
| 2                 | Benzidine  | 92-87-5   | mg/kg | 0.002 | N.D.        | 0.002        |   |
| 3                 | 4-chloro-o-toluidine   | 95-69-2   | mg/kg | 0.002 | N.D.        | 0.002        |   |
| 4                 | 2-naphthylamine  | 91-59-8   | mg/kg | 0.002 | N.D.        | 0.002        |   |
| 5                 | o-aminoazotoluene/<br>4-amino-2',3-dimethylazobenzene/<br>4-o-tolylazo-o-toluidine | 97-56-3   | mg/kg | 0.002 | N.D.        | 0.002        |   |
| 6                 | 5-nitro-o-toluidine  | 99-55-8   | mg/kg | 0.002 | N.D.        | 0.002        |   |
| 7                 | 4-chloroaniline  | 106-47-8  | mg/kg | 0.002 | N.D.        | 0.002        |   |
| 8                 | 4-methoxy-m-phenylenediamine   | 615-05-4  | mg/kg | 0.002 | N.D.        | 0.002        |   |
| 9                 | 4,4'-methylenedianiline<br>4,4'-diaminodiphenylmethane                             | 101-77-9  | mg/kg | 0.002 | N.D.        | 0.002        |   |
| 10                | 3,3'-dichlorobenzidine<br>3,3'-dichlorobiphenyl-4,4'-ylenediamine                  | 91-94-1   | mg/kg | 0.002 | N.D.        | 0.002        |   |
| 11                | 3,3'-dimethoxybenzidine/o-dianisidine  | 119-90-4  | mg/kg | 0.002 | N.D.        | 0.002        |   |
| 12                | 3,3'-dimethylbenzidine/<br>4,4'-bi-o-toluidine                                     | 119-93-7  | mg/kg | 0.002 | N.D.        | 0.002        |   |
| 13                | 4,4'-methylenedi-o-toluidine   | 838-88-0  | mg/kg | 0.002 | N.D.        | 0.002        |   |
| 14                | 6-methoxy-m-toluidine/p-cresidine  | 120-71-8  | mg/kg | 0.002 | N.D.        | 0.002        |   |
| 15                | 4,4'-methylene-bis-(2-chloro-aniline)/<br>2,2'-dichloro-4,4'-methylene-dianiline   | 101-14-4  | mg/kg | 0.002 | N.D.        | 0.002        |   |
| 16                | 4,4'-oxydianiline  | 101-80-4  | mg/kg | 0.002 | N.D.        | 0.002        |   |
| 17                | 4,4'-thiodianiline   | 139-65-1  | mg/kg | 0.002 | N.D.        | 0.002        |   |
| 18                | o-toluidine/ 2-aminotoluene  | 95-53-4   | mg/kg | 0.002 | N.D.        | 0.002        |   |
| 19                | 4-methyl-m-phenylenediamine/<br>2,4-Toluenediamine                                 | 95-80-7   | mg/kg | 0.002 | N.D.        | 0.002        |   |
| 20                | 2,4,5-trimethylaniline   | 137-17-7  | mg/kg | 0.002 | N.D.        | 0.002        |   |
| 21                | o-anisidine/ 2-methoxyaniline  | 90-04-0   | mg/kg | 0.002 | N.D.        | 0.002        |   |
| 22                | 4-amino azobenzene   | 60-09-3   | mg/kg | 0.002 | N.D.        | 0.002        |   |
| 23                | m-Phenylenediamine   | 108-45-2  | mg/kg | 0.002 | N.D.        | Sum:<br>0.01 |   |
| 24                | Aniline  | 62-53-3   | mg/kg | 0.002 | N.D.        |              |   |
| 25                | 2,4-Dimethylaniline / 2,4-xylidine   | 95-68-1   | mg/kg | 0.002 | N.D.        |              |   |
| 26                | 2,6-Dimethylaniline / 2,6-xylidine   | 87-62-7   | mg/kg | 0.002 | N.D.        |              |   |
| 27                | p-Phenylenediamine/1,4-phenylenediamine  | 106-50-3  | mg/kg | 0.002 | N.D.        |              |   |
| 28                | 2,6-Toluenediamine   | 823-40-5  | mg/kg | 0.002 | N.D.        |              |   |
| 29                | 1,5-Diaminenaphthalene   | 2243-62-1 | mg/kg | 0.002 | N.D.        |              |   |
| <b>Conclusion</b> |  | /         | /     | /     | <b>Pass</b> |              | / |

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Note:

- mg/kg = milligram per kilogram of foodstuff in contact with
- N.D. = Not Detected or less than RL
- RL = Report Limit
- Limit is according to Commission Regulation (EU) No 10/2011 of 14 January 2011 with amendments ((EU) No 2020/1245).

### **3. Specific Migration of Heavy Metals of Plastic**

Test method: With reference to EN 13130-1:2004, analysis was performed by Inductively Coupled Plasma Optical Emission Spectrometer (ICP-OES) and Inductively Coupled Plasma Optical Emission Spectrometer with Mass Detector (ICP-MS).

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

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

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| Items             | Unit  | RL    | Results      | Limit        |
|-------------------|-------|-------|--------------|--------------|
|                   |       |       | (1)          |              |
| Aluminium (Al)    | mg/kg | 0.05  | N.D.         | 1            |
| Ammonium          | mg/kg | -     | N.D.         | -            |
| Antimony (Sb)     | mg/kg | 0.01  | N.D.         | 0.04         |
| Arsenic (As)      | mg/kg | 0.01  | N.D.         | N.D.         |
| Barium (Ba)       | mg/kg | 0.1   | N.D.         | 1            |
| Cadmium (Cd)      | mg/kg | 0.002 | N.D.         | 0.002        |
| Calcium (Ca)      | mg/kg | 0.01  | 2.58         | -            |
| Chromium (Cr)     | mg/kg | 0.01  | N.D.         | 0.01         |
| Cobalt (Co)       | mg/kg | 0.05  | N.D.         | 0.05         |
| Copper (Cu)       | mg/kg | 0.01  | N.D.         | 5            |
| Iron (Fe)         | mg/kg | 0.01  | N.D.         | 48           |
| Lead (Pb)         | mg/kg | 0.01  | N.D.         | N.D.         |
| Lithium (Li)      | mg/kg | 0.1   | N.D.         | 0.6          |
| Magnesium (Mg)    | mg/kg | 0.01  | N.D.         | -            |
| Manganese (Mn)    | mg/kg | 0.05  | N.D.         | 0.6          |
| Mercury (Hg)      | mg/kg | 0.01  | N.D.         | N.D.         |
| Nickel (Ni)       | mg/kg | 0.02  | N.D.         | 0.02         |
| Potassium (K)     | mg/kg | 0.01  | N.D.         | -            |
| Sodium (Na)       | mg/kg | 0.01  | N.D.         | -            |
| Lanthanum (La)    | mg/kg | 0.01  | N.D.         | Sum:<br>0.05 |
| Europium (Eu)     | mg/kg | 0.01  | N.D.         |              |
| Gadolinium (Gd)   | mg/kg | 0.01  | N.D.         |              |
| Terbium (Tb)      | mg/kg | 0.01  | N.D.         |              |
| Zinc (Zn)         | mg/kg | 0.01  | N.D.         | 5            |
| <b>Conclusion</b> | /     | /     | <b>Pass*</b> | /            |

Note:

- mg/kg = milligram per kilogram of foodstuff in contact with
- N.D. = Not Detected or less than RL
- RL = Report Limit
- **Pass\*** = Meet the requirement of Client

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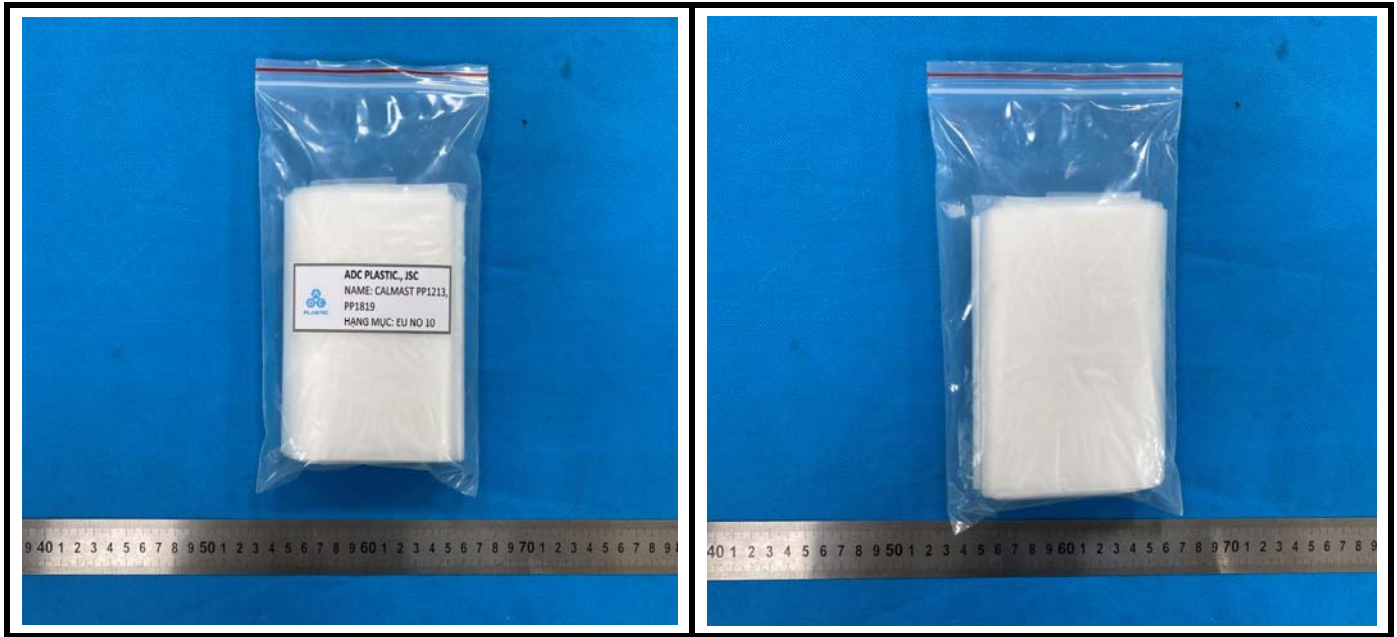
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Photograph of Sample



BACL authenticate the photo on original report only

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## Directions:

1. This report cannot be reproduced except in full, without prior written approval of the Company.
2. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.
3. This report is valid only with a valid digital signature. The digital signature may be available only under the Adobe software above version 7.0.
4. Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty.
5. The information which provided by the applicant, such as sample description, sample name, material component, style/item No., P.O. No., manufacture, age phase, the laboratory is not responsible for its authenticity and this information can affect the validity of the result in the test report.
6. The test samples were in good condition before testing.
7. The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval.

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