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CNAS L9939

TEST REPORT

Report No.: FCM2422720 (EN)(R1)
Sample Name: Taisox LLDPE Pipe Grade Resin
Applicant: Formosa Plastics Corporation
Manufacturer: /

南京海关危险货物与包装检测中心

NANJING CUSTOMS DISTRICT TESTING CENTER
FOR DANGEROUS GOODS AND PACKAGING

国家食品接触材料检测重点实验室

STATE KEY TESTING LABORATORY OF FOOD CONTACT MATERIALS





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Test Report

Information of Applicant (provided by the client):

Applicant: Formosa Plastics Corporation

Address: No. 1, Formosa Industrial Complex, Mailiao, Yunlin County 638, Taiwan, R.O.C

Sample Information (provided by the client):

Sample Name: Taisox LLDPE Pipe Grade Resin

Manufacturer: /

Material: LLDPE, CAS No.25213-02-9

Description: 2100RT, 3100RT

Quantity: 23pcs

Batch No.: /

Test Information:

Sample No.: FCM2422720

Date Received: 2024/11/20

Test Period: 2024/11/20~2024/12/19

Test Requirement: In accordance with the client's requirements: GB 4806.7-2023

Test Items: Please refer to next page(s).

Conclusion: Please refer to next page(s).

Note: The test report FCM2422720 (EN)(R1) is the revision of FCM2422720 (EN). From the date of issuance of the report FCM2422720 (EN)(R1), the test report FCM2422720 (EN) is void.

Signature:

Issue Date:2025/01/02





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Information of Use (provided by the client)

| Contact Food | Use Condition | Use S/V | Cleaning Requirement |
|--------------|---------------|---------|----------------------|
| / | Repeated use | Unknown | / |

Summary of Test Items and Results

| Test Item | Resource of Restriction and Requirement | Conclusion |
|---------------------------------|---|------------|
| Sensory requirements | GB 4806.7-2023 | Pass |
| General physicochemical indexes | GB 4806.7-2023 | Pass |
| Migration of 1-hexene | GB 4806.7-2023 | Pass |

Remark:

- (1)LOD/LOQ =Limit of Detection/Limit of Quantification.
- (2)N.D.=not detected (less than LOD/LOQ).
- (3)The test result between LOD and LOQ is for reference only.
- (4)When the limit is expressed as "Non-detectable", the limit of detection/ quantification is equivalent to LOD/LOQ specified in the test method, except for the specific requirements listed in standards.

Test Information:

- (1)As for repeated use articles: 1st time: The migration tests were carried out only one time.
- (2)Correction S/V:6dm² /1L (kg) .

Test Result

1. Sensory requirements

| Test Item | Test Result | Restriction and Requirement | Assessment | Test Method |
|-------------------|-------------|--|------------|----------------|
| Sensory | Comply | The product shall have normal color. Abnormal odor and unclean thing is not permitted. | Pass | GB 4806.7-2023 |
| The food simulant | Comply | Sensory deterioration of the food simulant obtained from the migration test such as turbidity, precipitate and abnormal odor is not permitted. | Pass | GB 4806.7-2023 |





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2. General physicochemical indexes

2.1. Overall migration

2.1.1. Test condition: 4%(v/v) acetic acid, 40°C, 10d, 1st time

| Test Item | Test Result | Restriction and Requirement | Assessment | Test Method |
|---------------------------------------|-------------|-----------------------------|------------|-----------------|
| Overall migration, mg/dm ² | 2.4 | ≤10 | Pass | GB 31604.8-2021 |

Note: (1)In accordance with the client's requirements, the compliance of the test items was checked on the basis of the level of the migration found in the 1st test.

2.1.2. Test condition: 50%(v/v) ethanol, 40°C, 10d, 1st time

| Test Item | Test Result | Restriction and Requirement | Assessment | Test Method |
|---------------------------------------|-------------|-----------------------------|------------|-----------------|
| Overall migration, mg/dm ² | <1.0 | ≤10 | Pass | GB 31604.8-2021 |

Note: (1)In accordance with the client's requirements, the compliance of the test items was checked on the basis of the level of the migration found in the 1st test.

2.2. Consumption of potassium permanganate

2.2.1. Test condition: water, 60°C, 2h, 1st time

| Test Item | Test Result | Restriction and Requirement | Assessment | Test Method |
|--|-------------|-----------------------------|------------|-----------------|
| Consumption of potassium permanganate, mg/kg | 1.7 | ≤10 | Pass | GB 31604.2-2016 |

2.3. Heavy metal (as Pb)

2.3.1. Test condition: 4%(v/v) acetic acid, 60°C, 2h, 1st time

| Test Item | Test Result | Restriction and Requirement | Assessment | Test Method |
|----------------------------|-------------|-----------------------------|------------|----------------------------|
| Heavy metal (as Pb), mg/kg | <1 | ≤1 | Pass | GB 31604.9-2016 1st method |

2.4. Sum of primary aromatic amines released

2.4.1. Test condition: 4%(v/v) acetic acid, 40°C, 10d, 1st time

| Test Item | Test Result | LOD/LOQ | Restriction and Requirement | Assessment | Test Method |
|--|-------------|--------------|-----------------------------|------------|------------------|
| Migration of 1,4-benzenediamine, mg/kg | N.D. | 1.0/3.0μg/kg | / | / | GB 31604.52-2021 |
| Migration of 1,3-benzenediamine, mg/kg | N.D. | 1.0/3.0μg/kg | / | / | GB 31604.52-2021 |
| Migration of 2,4-diaminotoluene, mg/kg | N.D. | 1.0/3.0μg/kg | / | / | GB 31604.52-2021 |
| Migration of 4,4'-oxydianiline, mg/kg | N.D. | 1.0/3.0μg/kg | / | / | GB 31604.52-2021 |





| Test Item | Test Result | LOD/LOQ | Restriction and Requirement | Assessment | Test Method |
|---|-------------|--------------|-----------------------------|------------|------------------|
| Migration of benzidine, mg/kg | N.D. | 1.0/3.0µg/kg | / | / | GB 31604.52-2021 |
| Migration of 4,4'-diaminodiphenylmethane, mg/kg | N.D. | 1.0/3.0µg/kg | / | / | GB 31604.52-2021 |
| Migration of aniline, mg/kg | N.D. | 1.0/3.0µg/kg | / | / | GB 31604.52-2021 |
| Migration of o-anisidine, mg/kg | N.D. | 1.0/3.0µg/kg | / | / | GB 31604.52-2021 |
| Migration of o-toluidine, mg/kg | N.D. | 1.0/3.0µg/kg | / | / | GB 31604.52-2021 |
| Migration of 3,3'-dimethyl-4,4'-diaminodiphenylmethane, mg/kg | N.D. | 1.0/3.0µg/kg | / | / | GB 31604.52-2021 |
| Migration of 3,3'-dimethoxybenzidine, mg/kg | N.D. | 1.0/3.0µg/kg | / | / | GB 31604.52-2021 |
| Migration of 3,3'-dimethylbenzidine, mg/kg | N.D. | 1.0/3.0µg/kg | / | / | GB 31604.52-2021 |
| Migration of 2,6-xylydine, mg/kg | N.D. | 1.0/3.0µg/kg | / | / | GB 31604.52-2021 |
| Migration of 2,4'-diaminodiphenylmethane, mg/kg | N.D. | 1.0/3.0µg/kg | / | / | GB 31604.52-2021 |
| Migration of 2,4-diaminoanisole, mg/kg | N.D. | 1.0/3.0µg/kg | / | / | GB 31604.52-2021 |
| Migration of 2-methoxy-5-methylaniline, mg/kg | N.D. | 1.0/3.0µg/kg | / | / | GB 31604.52-2021 |
| Migration of 2,4,5-trimethylaniline, mg/kg | N.D. | 1.0/3.0µg/kg | / | / | GB 31604.52-2021 |
| Migration of 4,4'-thiodianiline, mg/kg | N.D. | 1.0/3.0µg/kg | / | / | GB 31604.52-2021 |
| Migration of 4-chloroaniline, mg/kg | N.D. | 1.0/3.0µg/kg | / | / | GB 31604.52-2021 |
| Migration of 2,4-xylydine, mg/kg | N.D. | 1.0/3.0µg/kg | / | / | GB 31604.52-2021 |
| Migration of 2-naphthylamine, mg/kg | N.D. | 1.0/3.0µg/kg | / | / | GB 31604.52-2021 |
| Migration of 2,2'-diaminodiphenylmethane, mg/kg | N.D. | 1.0/3.0µg/kg | / | / | GB 31604.52-2021 |
| Migration of biphenyl-4-amine, mg/kg | N.D. | 1.0/3.0µg/kg | / | / | GB 31604.52-2021 |
| Migration of 4-chloro-o-toluidine, mg/kg | N.D. | 1.0/3.0µg/kg | / | / | GB 31604.52-2021 |
| Migration of 5-nitro-o-toluidine, mg/kg | N.D. | 1.0/3.0µg/kg | / | / | GB 31604.52-2021 |
| Migration of 3,3'-dichlorobenzidine, mg/kg | N.D. | 1.0/3.0µg/kg | / | / | GB 31604.52-2021 |
| Migration of 4-(phenylazo)aniline, mg/kg | N.D. | 1.0/3.0µg/kg | / | / | GB 31604.52-2021 |





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| Test Item | Test Result | LOD/LOQ | Restriction and Requirement | Assessment | Test Method |
|--|-------------|---------------------|--------------------------------|------------|------------------|
| Migration of 4,4'-methylene-bis-(2-chloroaniline), mg/kg | N.D. | 1.0/3.0µg/kg | / | / | GB 31604.52-2021 |
| Migration of o-aminoazotoluene, mg/kg | N.D. | 1.0/3.0µg/kg | / | / | GB 31604.52-2021 |
| Sum of primary aromatic amines released, mg/kg | <0.010 | 1.0/3.0µg/kg (each) | Non-detectable(LOD: 0.01mg/kg) | Pass | GB 31604.52-2021 |

3. Specific migration

3.1. Test condition: 4%(v/v) acetic acid, 40℃, 10d, 1st time

| Test Item | Test Result | LOD/LOQ | Restriction and Requirement | Assessment | Test Method |
|------------------------------|-------------|-----------|-----------------------------|------------|-------------------|
| Migration of 1-hexene, mg/kg | N.D. | 1.0/-mg/L | ≤3 | Pass | Q/DPTC-ZL-3-F-302 |

Note: (1)In accordance with the client's requirements, the compliance of the test items was checked on the basis of the level of the migration found in the 1st test.

3.2. Test condition: 10%(v/v) ethanol, 40℃, 10d, 1st time

| Test Item | Test Result | LOD/LOQ | Restriction and Requirement | Assessment | Test Method |
|------------------------------|-------------|-----------|-----------------------------|------------|-------------------|
| Migration of 1-hexene, mg/kg | N.D. | 1.0/-mg/L | ≤3 | Pass | Q/DPTC-ZL-3-F-302 |

Note: (1)In accordance with the client's requirements, the compliance of the test items was checked on the basis of the level of the migration found in the 1st test.

3.3. Test condition: 50%(v/v) ethanol, 40℃, 10d, 1st time

| Test Item | Test Result | LOD/LOQ | Restriction and Requirement | Assessment | Test Method |
|------------------------------|-------------|-----------|-----------------------------|------------|-------------------|
| Migration of 1-hexene, mg/kg | N.D. | 1.0/-mg/L | ≤3 | Pass | Q/DPTC-ZL-3-F-302 |

Note: (1)In accordance with the client's requirements, the compliance of the test items was checked on the basis of the level of the migration found in the 1st test.



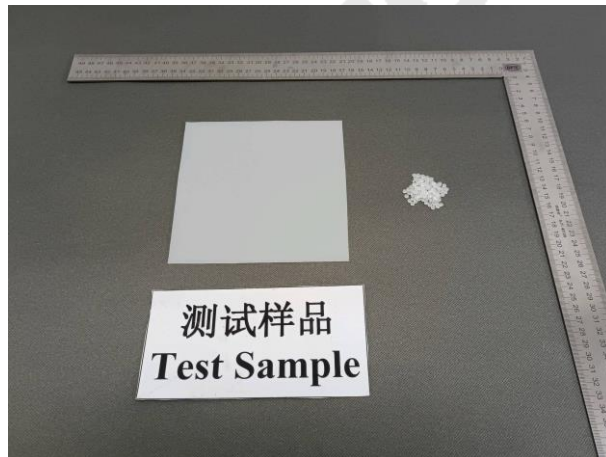


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The picture of submitted sample



*** END ***





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