

**'TORAY'**

**TORAY PLASTICS (MALAYSIA) SDN BERHAD** (46619-P)

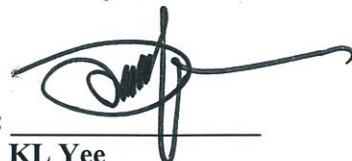
2628, MK. 1, SPT., Lorong Perusahaan 4, Prai Free Industrial Zone, 13600 Prai, Penang, Malaysia.

GST Registration No.: 002048270336 Website: <http://www.torayplastics.com.my> Tel. No.: +6 04-3988088 (General Line)

Fax No.: +6 04-3908975 (MD / Sales / IPC Div.), 04-3908977 (Technology Centre), 04-3974039 (Finance / Administration),  
04-3990563 (Purchasing), 04-3977357 (Logistics), 04-3997502 (Engineering), 04-3997503 (Production)

To Whom It May Concern:

From :



**KL Yee**  
**General Manager**  
**Technical & Quality Division**

Date: 24<sup>th</sup> January 2020

Dear Valued Customers,

**Re: Declaration of TOYOLAC<sup>TM</sup> MABS Resin for Food Contact Surface Application**

We wish to express our deepest appreciation for your excellent support towards our TOYOLAC<sup>TM</sup> MABS resin. Toray Plastics Malaysia Sdn. Bhd. (TPM) would like to clarify the application of food contact of the TOYOLAC<sup>TM</sup> MABS resins listed in table below.

Table 1: TOYOLAC<sup>TM</sup> MABS Resin Grades

TYPES	GRADE NAME
Transparent MABS	TOYOLAC <sup>TM</sup> 920 555
	TOYOLAC <sup>TM</sup> 900 352
	TOYOLAC <sup>TM</sup> 900 352A

The determination of food contact surface test conducted according to Toray Method which the MABS in a plate form are to contact food, extracted with the solvent or solvents characterizing the type of food and under the conditions of time and temperature as determined as tables below. In as much Toray Plastics (M) Sdn. Bhd. does not commit on compliance of US Food and Drug Administration (FDA).

**a. Total Nonvolatile Extractives:**

Extractants	Test Condition	Reporting Limit (mg/inch <sup>2</sup> )	Permissible Limit (mg/inch <sup>2</sup> )
Distilled Water	Fill Boiling Cool to 100 °F	0.05	0.3
8 % Alcohol	150 °F for 2 hours	0.05	0.3
n-Heptane	120 °F for 15 minutes	0.05	0.3

**b. Potassium Permanganate Oxidizable Extractives**

Extractants	Test Condition	Reporting Limit (Absorbance)	Permissible Limit (Absorbance)
Distilled Water	Fill Boiling Cool to 100 °F	0.02	0.15
8 % Alcohol	150 °F for 2 hours	0.02	0.15

c. Ultraviolet-absorbing Extractives

Extractants	Test Condition	Reporting Limit (mg/inch <sup>2</sup> )	Permissible Limit (mg/inch <sup>2</sup> )
Distilled Water	Fill Boiling Cool to 100 °F	0.02	0.3
8 % Alcohol	150 °F for 2 hours	0.02	0.3
n-Heptane	120 °F for 15 minutes	0.02	0.1

With above test result we are recommending the types of raw and process foods in Table 2. may be safely used as intended for use in contact with food, in accordance with the above prescribed conditions.

Table 2: Types of Raw and Processed Foods

Type	Raw and Processed Foods
A	Nonacid, aqueous products; may contain salt or sugar or both (pH above 5.0).
B	Acid, aqueous products; may contain salt or sugar or both, and including oil-in-water emulsions of low or high fat content.
C	Aqueous, acid or nonacid products containing free oil or fat; may contain salt, and including water-in-oil emulsions of low- or high-fat content.
D	Dairy products and modifications: i. Water-in-oil emulsions, high- or low-fat. ii. Oil-in-water emulsions, high- or low-fat.
E	Low-moisture fats and oil.
F	Beverages: i. Containing up to 8 percent of alcohol. ii. Nonalcoholic.
G	Bakery products other than those included under Type H of this table: i. Moist bakery products with surface containing free fat or oil. ii. Moist bakery products with surface containing no free fat or oil
H	Dry solids with the surface containing free fat or oil.

We wish to stress that the extraction test results, referred to in this declaration, may differ significantly from the performance of the final plastic material or article under the actual and foreseeable conditions of use.

In view of the many factors that may affect processing and application of our products, these information do not relieve user from carrying out own investigation and test, neither do these information imply any guarantee, or warranty for certain properties, uses, suitability, safety, hazards or health effects. This information relates only to the above mentioned materials as delivered in their original packaging. Besides, it does not relate to any product made of these materials with or without the inclusion of further additives. Thus, TPM makes no warranties, express or implied and assumes no liabilities in any use of the information.

Should you need further clarification, please feel free to contact us.





## Test Report

No.: T31920232151SC

Date: JUN 21, 2019

Page 1 of 3

TORAY PLASTICS (M) SDN BHD  
2628, MK. 1, SPT., LORONG PERUSAHAAN 4, PRAI FREE INDUSTRIAL ZONE, 13600 PRAI, PENANG

The following samples were submitted and identified on behalf of the client as:

TOYOLAC 920 555

SGS Case No. : CA319202335799  
SGS Ref No. : 2019-04-12-010  
CA09293 – CA09299  
Sample Receiving Date : APR 23, 2019  
Test Performing Date : APR 23 - 30, 2019

Test Requested : Please refer to the result summary.

Test Method & Results : Please refer to next page(s).

Result Summary :

Test Requested	Conclusion
<b>US FDA 21 CFR 177.1010 (Acrylic and Modified Acrylic Plastics)</b>	--
a) Total Nonvolatile Extractives	PASS
b) Potassium Permanganate Oxidizable Extractives	PASS
c) Ultraviolet-absorbing Extractives	PASS

Signed for and on behalf of  
SGS Hong Kong Ltd.

Che Wai Leuk, Jerry  
Technical Manager

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## Test Report

No.: T31920232151SC

Date: JUN 21, 2019

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Test Results :

### US FDA 21 CFR 177.1010 (Acrylic and Modified Acrylic Plastics)

#### a) Total Nonvolatile Extractives

Method : With reference to 21 CFR 177.1010

Extractants	Test Condition	Result (mg/inch <sup>2</sup> )	Reporting Limit (mg/inch <sup>2</sup> )	Permissible Limit (mg/inch <sup>2</sup> )
		1		
Distilled Water	150°F for 2 hours	ND	0.05	0.3
8% Alcohol	150°F for 2 hours	0.06	0.05	0.3
50% Alcohol	150°F for 2 hours	ND	0.05	0.3
n-Heptane	100°F for 30 minutes	ND	0.05	0.3
<b>Comment</b>	--	PASS	--	--

#### Sample Description :

1. Transparent plastic (Raw material)

Note : 1. mg/inch<sup>2</sup> = milligram per square inch

2. °F = degrees Fahrenheit

3. ND = Not Detected

#### b) Potassium Permanganate Oxidizable Extractives

Method : With reference to 21 CFR 177.1010

Extractants	Test Condition	Result (Absorbance)	Reporting Limit (Absorbance)	Permissible Limit (Absorbance)
		1		
Distilled Water	150°F for 2 hours	ND	0.02	0.15
8% Alcohol	150°F for 2 hours	ND	0.02	0.15
50% Alcohol	150°F for 2 hours	0.09	0.02	0.15
<b>Comment</b>	--	PASS	--	--

#### Sample Description :

1. Transparent plastic (Raw material)

Note : 1. °F = degrees Fahrenheit

2. ND = Not Detected

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## Test Report

No.: T31920232151SC

Date: JUN 21, 2019

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### c) Ultraviolet-absorbing Extractives

Method : With reference to 21 CFR 177.1010

Extractants	Test Condition	Result (Absorbance)	Reporting Limit (Absorbance)	Permissible Limit (Absorbance)
		1		
Distilled Water	150°F for 2 hours	ND	0.02	0.3
8% Alcohol	150°F for 2 hours	ND	0.02	0.3
50% Alcohol	150°F for 2 hours	ND	0.02	0.3
n-Heptane	100°F for 30 minutes	ND	0.02	0.1
<b>Comment</b>	--	PASS	--	--

#### Sample Description :

1. Transparent plastic (Raw material)

Note : 1. °F = degrees Fahrenheit  
2. ND = Not Detected

#### Photo Appendix



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

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## Test Report

No.: T31920232160SC

Date: JUN 21, 2019

Page 1 of 3

TORAY PLASTICS (M) SDN BHD  
2628, MK. 1, SPT., LORONG PERUSAHAAN 4, PRAI FREE INDUSTRIAL ZONE, 13600 PRAI, PENANG

The following samples were submitted and identified on behalf of the client as:

TOYOLAC 900 352

SGS Case No. : CA319202335909  
SGS Ref No. : 2019-04-12-010  
CA09293 – CA09299  
Sample Receiving Date : APR 23, 2019  
Test Performing Date : APR 23 - 30, 2019

Test Requested : Please refer to the result summary.

Test Method & Results : Please refer to next page(s).

Result Summary :

Test Requested	Conclusion
<b>US FDA 21 CFR 177.1010 (Acrylic and Modified Acrylic Plastics)</b>	--
a) Total Nonvolatile Extractives	PASS
b) Potassium Permanganate Oxidizable Extractives	PASS
c) Ultraviolet-absorbing Extractives	PASS

Signed for and on behalf of  
SGS Hong Kong Ltd.

Che Wai Leuk, Jerry  
Technical Manager

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## Test Report

No.: T31920232160SC

Date: JUN 21, 2019

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Test Results :

### US FDA 21 CFR 177.1010 (Acrylic and Modified Acrylic Plastics)

#### a) Total Nonvolatile Extractives

Method : With reference to 21 CFR 177.1010

Extractants	Test Condition	Result (mg/inch <sup>2</sup> )	Reporting Limit (mg/inch <sup>2</sup> )	Permissible Limit (mg/inch <sup>2</sup> )
		1		
Distilled Water	150°F for 2 hours	ND	0.05	0.3
8% Alcohol	150°F for 2 hours	ND	0.05	0.3
50% Alcohol	150°F for 2 hours	0.05	0.05	0.3
n-Heptane	100°F for 30 minutes	0.17	0.05	0.3
<b>Comment</b>	--	PASS	--	--

#### Sample Description :

1. Transparent plastic (Raw material)

Note : 1. mg/inch<sup>2</sup> = milligram per square inch

2. °F = degrees Fahrenheit

3. ND = Not Detected

#### b) Potassium Permanganate Oxidizable Extractives

Method : With reference to 21 CFR 177.1010

Extractants	Test Condition	Result (Absorbance)	Reporting Limit (Absorbance)	Permissible Limit (Absorbance)
		1		
Distilled Water	150°F for 2 hours	ND	0.02	0.15
8% Alcohol	150°F for 2 hours	ND	0.02	0.15
50% Alcohol	150°F for 2 hours	0.10	0.02	0.15
<b>Comment</b>	--	PASS	--	--

#### Sample Description :

1. Transparent plastic (Raw material)

Note : 1. °F = degrees Fahrenheit

2. ND = Not Detected

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## Test Report

No.: T31920232160SC

Date: JUN 21, 2019

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### c) Ultraviolet-absorbing Extractives

Method : With reference to 21 CFR 177.1010

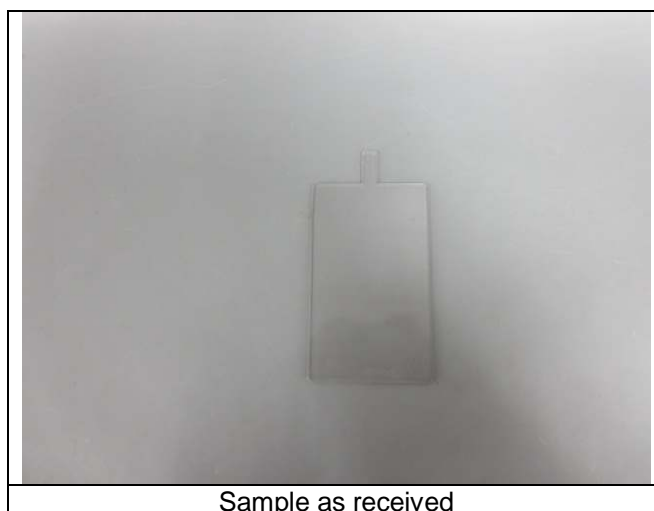
Extractants	Test Condition	Result (Absorbance)	Reporting Limit (Absorbance)	Permissible Limit (Absorbance)
		1		
Distilled Water	150°F for 2 hours	ND	0.02	0.3
8% Alcohol	150°F for 2 hours	ND	0.02	0.3
50% Alcohol	150°F for 2 hours	ND	0.02	0.3
n-Heptane	100°F for 30 minutes	ND	0.02	0.1
<b>Comment</b>	--	PASS	--	--

#### Sample Description :

1. Transparent plastic (Raw material)

Note : 1. °F = degrees Fahrenheit  
2. ND = Not Detected

#### Photo Appendix



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

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## Test Report

No.: T31720242015SC

Date: OCT 03, 2017

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TORAY PLASTICS (M) SDN BHD  
2628, MK. 1, SPT, LORONG PERUSAHAAN 4, PRAI FREE INDUSTRIAL ZONE, 13600 PRAI PENANG

The following samples were submitted and identified on behalf of the client as:

TOYOLAC 900 352A

SGS Case No. : CA317202434449  
RS Reference No. : CRS/SA/17/1824/TORAY  
Sample Receiving Date : JUL 19, 2017  
Test Performing Date : JUL 19 - 31, 2017

Test Requested : Please refer to the result summary.

Test Method & Results : Please refer to next page(s).

Result Summary :

Test Requested	Conclusion
<b>US FDA 21 CFR 177.1010 (Acrylic and Modified Acrylic Plastics)</b>	--
a) Total Nonvolatile Extractives	PASS
b) Potassium Permanganate Oxidizable Extractives	PASS
c) Ultraviolet-absorbing Extractives	PASS

Signed for and on behalf of  
SGS Hong Kong Ltd.

Che Wai Leuk, Jerry  
Technical Manager

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## Test Report

No.: T31720242015SC

Date: OCT 03, 2017

Page 2 of 3

Test Results :

### US FDA 21 CFR 177.1010 (Acrylic and Modified Acrylic Plastics)

#### a) Total Nonvolatile Extractives

Method : With reference to 21 CFR 177.1010

Extractants	Test Condition	Result (mg/inch <sup>2</sup> )	Reporting Limit (mg/inch <sup>2</sup> )	Permissible Limit (mg/inch <sup>2</sup> )
		1		
Distilled Water	Fill boiling cool to 100°F	0.05	0.05	0.3
8% Alcohol	150°F for 2 hours	0.06	0.05	0.3
50% Alcohol	150°F for 2 hours	0.06	0.05	0.3
n-Heptane	120°F for 15 minutes	0.05	0.05	0.3
<b>Comment</b>	--	PASS	--	--

#### Sample Description :

1. Transparent Plastic (Film)

Note : 1. mg/inch<sup>2</sup> = milligram per square inch

2. °F = degrees Fahrenheit

3. ND = Not Detected

#### b) Potassium Permanganate Oxidizable Extractives

Method : With reference to 21 CFR 177.1010

Extractants	Test Condition	Result (Absorbance)	Reporting Limit (Absorbance)	Permissible Limit (Absorbance)
		1		
Distilled Water	Fill boiling cool to 100°F	ND	0.02	0.15
8% Alcohol	150°F for 2 hours	0.05	0.02	0.15
50% Alcohol	150°F for 2 hours	0.09	0.02	0.15
<b>Comment</b>	--	PASS	--	--

#### Sample Description :

1. Transparent Plastic (Film)

Note : 1. °F = degrees Fahrenheit

2. ND = Not Detected

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## Test Report

No.: T31720242015SC

Date: OCT 03, 2017

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Test Results(Cont'd) :

c) Ultraviolet-absorbing Extractives

Method : With reference to 21 CFR 177.1010

Extractants	Test Condition	Result (Absorbance)	Reporting Limit (Absorbance)	Permissible Limit (Absorbance)
		1		
Distilled Water	Fill boiling cool to 100°F	ND	0.02	0.3
8% Alcohol	150°F for 2 hours	ND	0.02	0.3
50% Alcohol	150°F for 2 hours	ND	0.02	0.3
n-Heptane	120°F for 15 minutes	ND	0.02	0.1
<b>Comment</b>	--	PASS	--	--

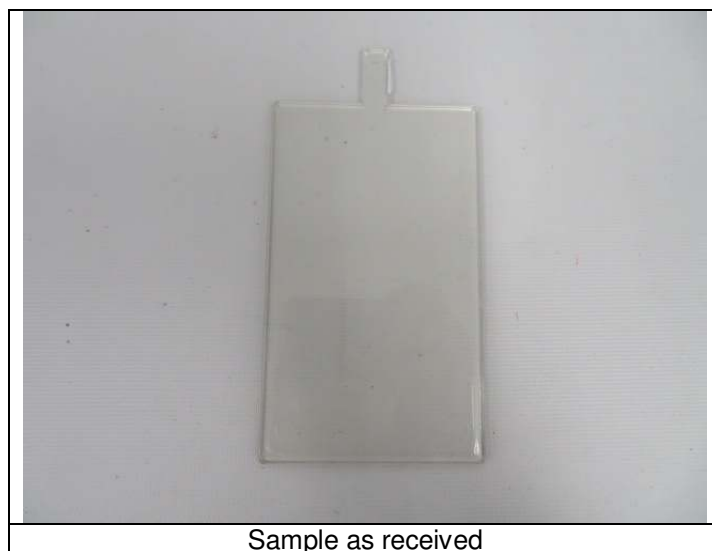
### Sample Description :

1. Transparent Plastic (Film)

Note : 1. °F = degrees Fahrenheit

2. ND = Not Detected

### Photo Appendix



Sample as received

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