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**Photo of the Tested Sample**





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**Photo of the Tested Sample**





**TEST RESULT**

**Sample Description Assigned by Laboratory:**

Test Item	Description	Client Claimed Material
1	Green plastic	LDPE
2	White plastic	ABS
3	Blue plastic	GPPS
4	Transparent silicone ring	Silicone
5	Black silicone ring	Silicone
6	Grey plastic	TPE
7	Black plastic	ABS
8	White plastic	PP Copolymer

**I. Olefin Polymers - Polyethylene - U.S. FDA 21 CFR 177.1520**

For use in articles that contact food except for articles used for packing or holding food during cooking

Parameter	Unit	Result	Limit
		1	
Density	g/cm <sup>3</sup>	0.893	0.85-1.00
Total Extractives (n-Hexane)	% w/w	1.2	≤ 5.5
Total Extractives (Xylene)	% w/w	1.2	≤ 11.3
<b>Conclusion</b>	-	PASS	-

Note: g/cm<sup>3</sup> = gram per cubic centimetre  
% w/w = percent weight by weight  
“<” = less than  
“≤” = less than or equal to

Method: U.S. FDA 21 CFR 177.1520

**II. Olefin Polymers - Polypropylene Copolymer - U.S. FDA 21 CFR 177.1520**

Parameter	Unit	Result	Limit
		8	
Density	g/cm <sup>3</sup>	0.884	0.85-1.00
Total Extractives (n-Hexane)	% w/w	0.5	≤ 5.5
Total Extractives (Xylene)	% w/w	2.7	≤ 30
<b>Conclusion</b>	-	PASS	-

Note: g/cm<sup>3</sup> = gram per cubic centimetre  
% w/w = percent weight by weight  
“<” = less than  
“≤” = less than or equal to

Method: U.S. FDA 21 CFR 177.1520



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**III. Acrylonitrile Copolymers and Resins - U.S. FDA 21 CFR 181.32**

Parameter	Unit	Result		Limit
		2	7	
Acrylonitrile in				
(i) Distilled Water	mg/in <sup>2</sup>	<0.0003	<0.0003	≤0.003
(ii) 3% Acetic Acid	mg/in <sup>2</sup>	<0.0003	<0.0003	≤0.003
(iii) n-Heptane	mg/in <sup>2</sup>	<0.0003	<0.0003	≤0.003
(iv) 8% Ethanol	mg/in <sup>2</sup>	<0.0003	<0.0003	≤0.003
(v) 50% Ethanol	mg/in <sup>2</sup>	<0.0003	<0.0003	≤0.003
Conclusion	-	PASS	PASS	-

Note: mg/in<sup>2</sup> = milligrams per square inch  
“<” = less than  
“≤” = less than or equal to

Method: U.S. FDA 21 CFR 181.32

**IV. Polystyrene and Rubber-Modified Polystyrene - U.S. FDA 21 CFR 177.1640**

Parameter	Unit	Result	Limit
		3	
Total residual styrene monomer	% w/w	0.062	≤ 0.5
Conclusion	-	PASS	-

Note: “<” = less than  
“≤” = less than or equal to  
% w/w = percent weight by weight

Method: U.S. FDA 21 CFR 177.1640

Remark: Requirement for polystyrene basic polymers:  
≤ 0.5% (for articles intended for use in contact with fatty foods)



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**V. Closures with Sealing Gaskets for Food Containers - U.S. FDA 21 CFR 177.1210**

Condition of use: E) Room temperature filled and stored  
 Extracting condition: Distilled Water (120 °F, 24 hr.)  
 n-Heptane (70 °F, 30 min.)  
 8% Alcohol (120 °F, 24 hr.)

Parameter	Unit	Result		Limit
		4	5	
Net Chloroform- Soluble Extractives				
(i) Distilled Water	ppm	13	11.5	≤ 50
(ii) n-Heptane	ppm	<10	<10	≤ 50
(iii) 8% Alcohol	ppm	18	14.8	≤ 50
Conclusion	-	PASS	PASS	-

Note: ppm = parts per million  
 “<” = less than  
 “≤” = less than or equal to

Method: U.S. FDA 21 CFR 177.1210

Remark: Maximum extractives tolerances of different types of closure-sealing gasket composition

Type of closure-sealing gasket composition	Maximum Extractives Tolerances (in ppm)		
	Chloroform fraction of water extractives	Chloroform fraction of heptane extractives	Chloroform fraction of alcohol extractives
1. Plasticized polymers, including unvulcanized or vulcanized or otherwise cured natural and synthetic rubber formed in place as overall discs or annular rings from a hot melt, solution, plastisol, organisol, mechanical dispersion, or latex	50	500	50
2. Performed overall discs or annular rings of plasticized polymers, including unvulcanized natural or synthetic rubber	50	250	50
3. Performed overall discs or annular rings of vulcanized plasticized polymers, including natural or synthetic rubber	50	50	50
4. Performed overall discs or annular rings of polymeric or resinous-coated paper, paperboard, plastic, or metal foil substrates	50	250	50
5. Closures with sealing gaskets or sealing compositions as described in 1, 2, 3 and 4, and including paper, paperboard, and glassine used for dry foods only	Not applicable	Not applicable	Not applicable



**TEST RESULT**

**VI. Rubber Article Intended for Repeated Use & As Applicant's Requirement**

I. Rubber articles intended for repeated use, in contact with aqueous food

Parameter	Unit	Result	Client's Limit
		6	
Total Extractives in Distilled Water			
(i) During the first 7 hours of extraction	mg/in <sup>2</sup>	0.8	≤ 20
(ii) During the succeeding 2 hours of extraction	mg/in <sup>2</sup>	0.3	≤ 1
<b>Conclusion</b>	-	PASS	-

II. Rubber articles intended for repeated use, in contact with fatty foods

Parameter	Unit	Result	Client's Limit
		6	
Total Extractives in n-Hexane			
(i) During the first 7 hours of extraction	mg/in <sup>2</sup>	131.3	≤ 175
(ii) During the succeeding 2 hours of extraction	mg/in <sup>2</sup>	3.6	≤ 4
<b>Conclusion</b>	-	PASS	-

Note: "<" = less than  
"≤" = less than or equal to  
mg/in<sup>2</sup> = milligram per square inch

Method: With reference to U.S. FDA 21 CFR 177.2600

END



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ANNEX I

Remark: The client declares that the above tested material except colorant will be used in below styles.

Description	
	
	



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**ANNEX II**

**Remark: The client declares that the above tested material except colorant will be used in below styles.**

Description
