



Test Report

No. 4067084-CH01-R1

Date: December 13, 2016

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SeaCa Packaging
23400 71st Place South
Kent, WA 98032
United States

This report supersedes all previous documents bearing the test report number 4067084-CH01.

The following sample(s) was/were submitted and identified by/on behalf of the client as:

Trade Name E-Corr Impact PP Copolymer Sheet - with white black UV and antistatic additives
Color: White and Black
Sample/Style No: Lot 1, Lot 2, Lot 3

Sample Received Date: 11/30/2016

Testing Period: 12/2/2016 – 12/9/2016

Revision Summary: Updated results summary

Test Requested : Please refer to the result summary.

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

Result Summary :

Test Requested	Comment
1. US FDA 21 CFR 177.1520 (Olefin Polymers)	--
Polypropylene copolymer	--
a) Density	PASS
b) Maximum Extractable fraction	PASS
c) Maximum Soluble fraction	PASS
2. US FDA 21 CFR 176.170 (Paper and Paperboard) – Determination of Amount of Net Chloroform Soluble Extractives	PASS
3. Standard Consumer Safety Specification for Toy Safety, ASTM F963-11 Clause 4.3.5	--
a) Soluble heavy metals in substrate material	PASS

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Signed for and on behalf of SGS North America, Inc.

Manoj Aluri
Sr. Laboratory Supervisor, Chemistry Laboratory

Prepared By:

Evan Mishner
Report Writer, Chemistry Laboratory

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1. US FDA 21 CFR 177.1520 (Olefin Polymers) Polyethylene

a) Density

Method: With reference to 21 CFR 177.1520 d(1).

Test Item	Result (g/mL)	Permissible Limit (g/mL)
	1	
Density at 23°C	0.907	0.85 – 1.00
Comment	PASS	--

Test Item	Result (g/mL)	Permissible Limit (g/mL)
	2	
Density at 23°C	0.895	0.85 – 1.00
Comment	PASS	--

Test Item	Result (g/mL)	Permissible Limit (g/mL)
	3	
Density at 23°C	0.884	0.85 – 1.00
Comment	PASS	--

Sample Description:

1. Lot 1 : Hi Impact PP Copolymer w/FDA White and Anti Static Additives
2. Lot 2: Hi Impact PP Copolymer w/FDA White Anti Static and Ultra Violet Inhibitor Additives
3. Lot 3: Hi Impact PP Copolymer w/FDA Black and Anti Static Additives

Note : g/mL = gram per milliliter
NA = Not Applicable

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b) Maximum Extractable fraction

Method: With reference to 21 CFR 177.1520 (d)(3)(ii). Sample preparation in n-hexane at 50°C for 2 hours.

Test Item	Result (% w/w)	Reporting Limit (% w/w)	Permissible Limit (% w/w)
	1		
Extractable fraction	1.78	0.1	5.5
Comment	PASS	--	--

Test Item	Result (% w/w)	Reporting Limit (% w/w)	Permissible Limit (% w/w)
	2		
Extractable fraction	2.31	0.1	5.5
Comment	PASS	--	--

Test Item	Result (% w/w)	Reporting Limit (% w/w)	Permissible Limit (% w/w)
	3		
Extractable fraction	1.41	0.1	5.5
Comment	PASS	--	--

Sample Description:

1. Lot 1 : Hi Impact PP Copolymer w/FDA White and Anti Static Additives
2. Lot 2: Hi Impact PP Copolymer w/FDA White Anti Static and Ultra Violet Inhibitor Additives
3. Lot 3: Hi Impact PP Copolymer w/FDA Black and Anti Static Additives

- Note :
1. % w/w = percentage of weight by weight
 2. ND = Not Detected
 3. °C = degree Celsius

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c) Maximum Soluble fraction

Method: With reference to 21 CFR 177.1520 (d)(4)(ii). Sample preparation in xylene at 25°C.

Test Item	Result (% w/w)	Reporting Limit (% w/w)	Permissible Limit (% w/w)
	1		
Maximum Soluble fraction	7.65	0.1	30.0
Comment	PASS	--	--

Test Item	Result (% w/w)	Reporting Limit (% w/w)	Permissible Limit (% w/w)
	2		
Maximum Soluble fraction	6.54	0.1	30.0
Comment	PASS	--	--

Test Item	Result (% w/w)	Reporting Limit (% w/w)	Permissible Limit (% w/w)
	2		
Maximum Soluble fraction	6.08	0.1	30.0
Comment	PASS	--	--

Sample Description:

1. Lot 1 : Hi Impact PP Copolymer w/FDA White and Anti Static Additives
2. Lot 2: Hi Impact PP Copolymer w/FDA White Anti Static and Ultra Violet Inhibitor Additives
3. Lot 3: Hi Impact PP Copolymer w/FDA Black and Anti Static Additives

- Note : 1. % w/w = percentage of weight by weight
2. ND = Not Detected
3. °C = degree Celsius

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2. US FDA 21 CFR 176.170 (Paper and Paperboard) – Determination of Amount of Net Chloroform Soluble Extractives

Method : With reference to US FDA 21 CFR 176.170.

Extractants	Test Condition	Result (mg/inch ²)	Reporting Limit (mg/inch ²)	Permissible Limit (mg/inch ²)
		1		
Distilled Water	212°F for 30 min	ND	0.2	0.5
n-Heptane	70°F for 30 minutes	ND	0.2	0.5
Comment	--	PASS	--	--

Extractants	Test Condition	Result (mg/inch ²)	Reporting Limit (mg/inch ²)	Permissible Limit (mg/inch ²)
		2		
Distilled Water	212°F for 30 min	ND	0.2	0.5
n-Heptane	70°F for 30 minutes	ND	0.2	0.5
Comment	--	PASS	--	--

Extractants	Test Condition	Result (mg/inch ²)	Reporting Limit (mg/inch ²)	Permissible Limit (mg/inch ²)
		3		
Distilled Water	212°F for 30 min	ND	0.2	0.5
n-Heptane	70°F for 30 minutes	ND	0.2	0.5
Comment	--	PASS	--	--

Sample Description:

1. Lot 1 : Hi Impact PP Copolymer w/FDA White and Anti Static Additives
2. Lot 2: Hi Impact PP Copolymer w/FDA White Anti Static and Ultra Violet Inhibitor Additives
3. Lot 3: Hi Impact PP Copolymer w/FDA Black and Anti Static Additives

Note : 1. mg/inch² = milligram per square inch

2. °F = degrees Fahrenheit

3. ND = Not Detected

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3.Soluble heavy metals in substrate material

Method : With reference to ASTM F963-11 Clause 8.3.1 – Total Element Content Screening (CPSC-CH-E1002-08.1). Analysis was performed by Inductively Coupled Argon Plasma – Optical Emission Spectrometry and/or ICP-MS.

Test Item	Result (mg/kg)			Reporting Limit (mg/kg)	Soluble Limit (mg/kg)
	1	2	3		
Soluble Lead (Pb)	ND	ND	ND	20	90
Soluble Antimony (Sb)	ND	ND	ND	20	60
Soluble Arsenic (As)	ND	ND	ND	20	25
Soluble Barium (Ba)	ND	ND	ND	100	1000
Soluble Cadmium (Cd)	ND	ND	ND	20	75
Soluble Chromium (Cr)	ND	ND	ND	20	60
Soluble Mercury (Hg)	ND	ND	ND	20	60
Soluble Selenium (Se)	ND	ND	ND	20	500
Conclusion	PASS	PASS	PASS	--	

Sample Description:

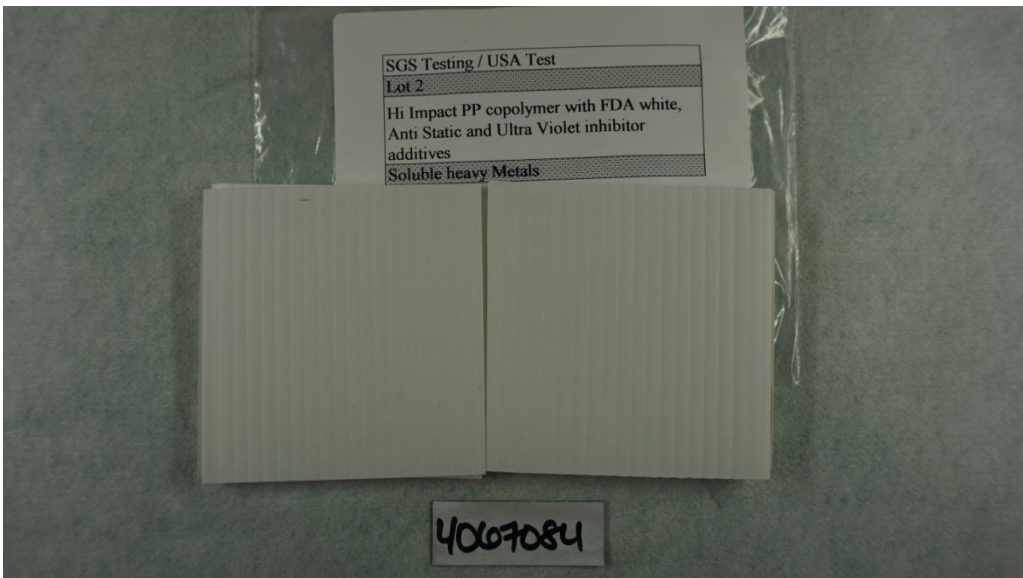
1. Lot 1 : Hi Impact PP Copolymer w/FDA White and Anti Static Additives
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3. Lot 3: Hi Impact PP Copolymer w/FDA Black and Anti Static Additives

Note : 1. mg/kg = milligram per kilogram
2. ND = Not Detected

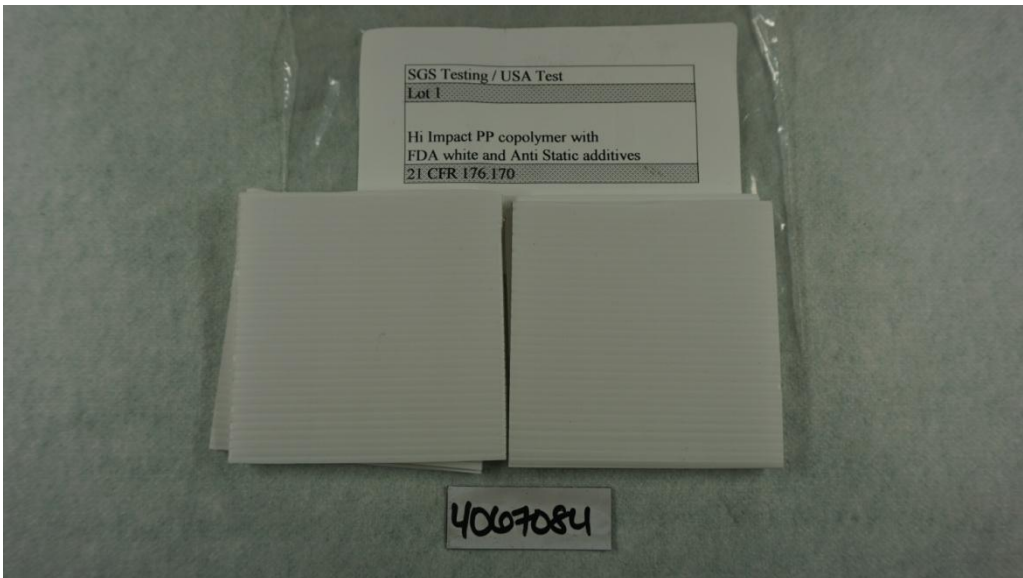
Remark : The above total heavy metals contents of the submitted samples were within their corresponding soluble limits; hence no additional analysis was performed in accordance with ASTM F963-11 Clause 8.3.5.

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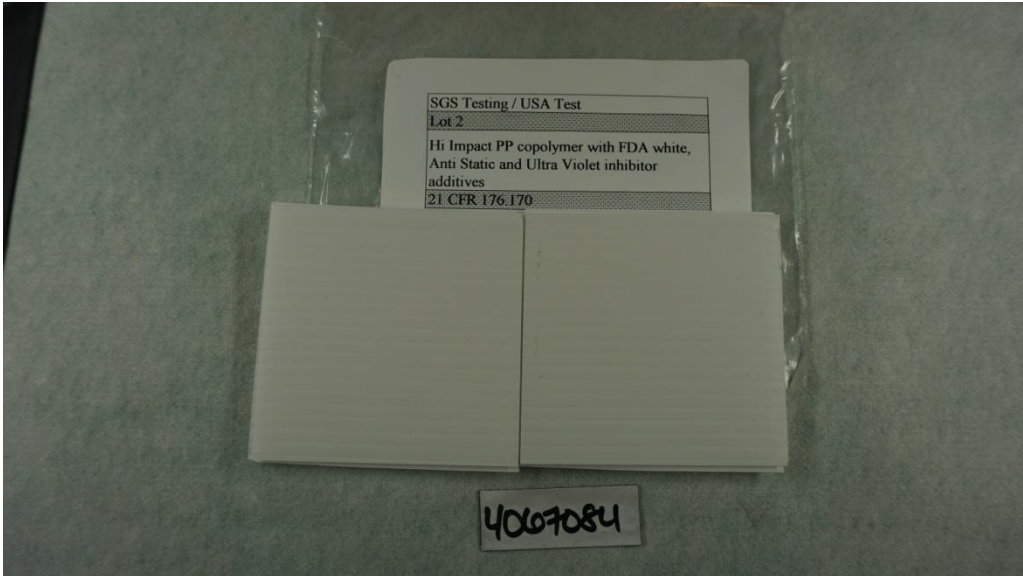
Sample Photo(s):



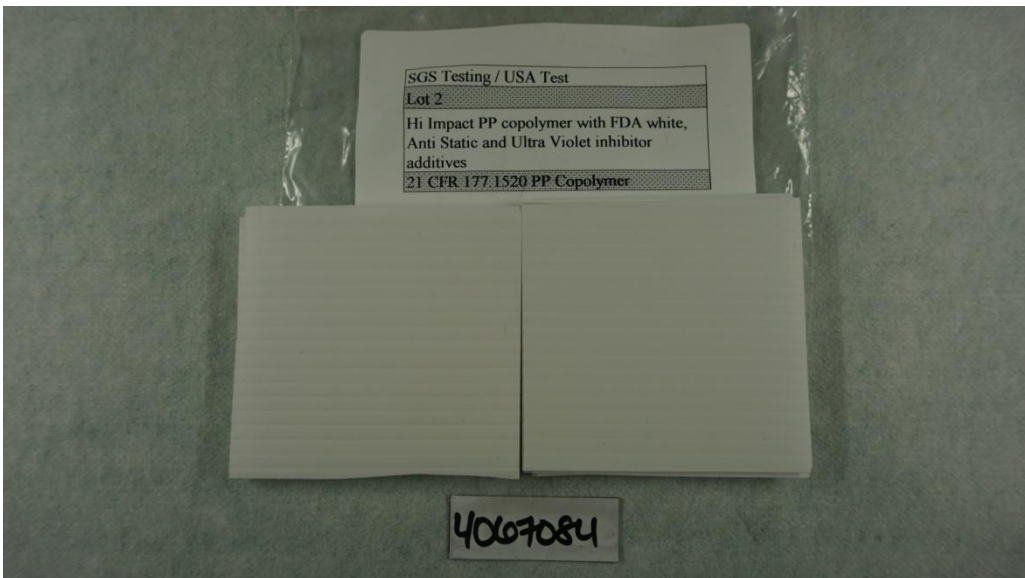
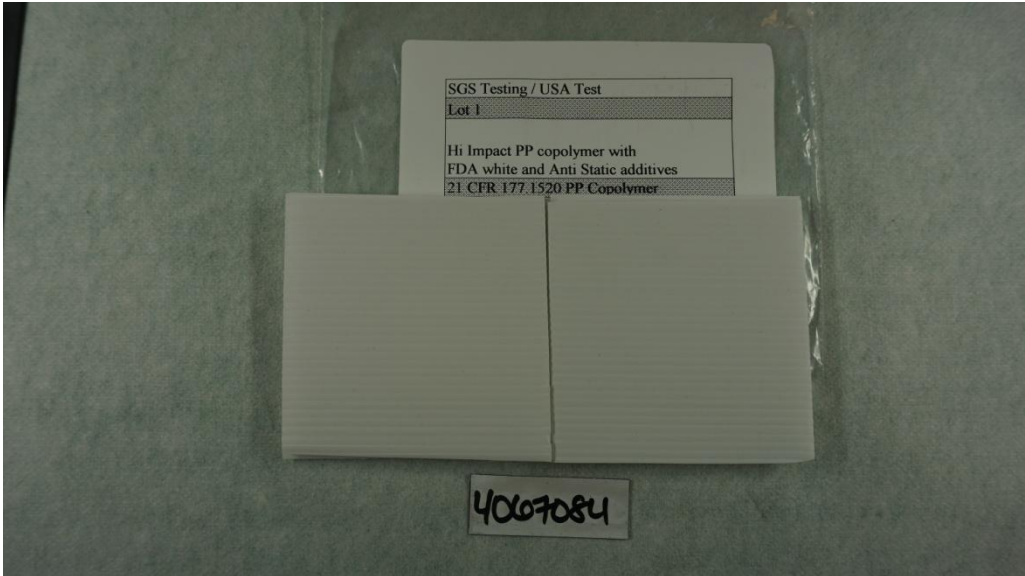
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