

Test Report

Report No.: SFW23100485 Report Issue Date : Jan 13, 2023 Page 1 of 10

Formosa Plastics Corporation
 No. 100, Shui-Guan Rd., Renwu Dist., Kaohsiung City 814 , Taiwan

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

Sample Name : PVC Powder
 Sample Color : White
 Style / Item No. : JWSPR-D
 Material Composition : PVC Powder
 Sample Submitted By : Formosa Plastics Corporation
 * * * * *

Date of Sample Received : Jan 05, 2023
 Testing Period : Jan 05, 2023 – Jan 12, 2023

Test Requested : Chemical of High Concern to Children (CHCC) as contaminants in Chapter 173-334 WAC Children’s Safe Products Act- Reporting Rule

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

Summary :

According to the specified scope and analytical techniques, CHCC as contaminants are ≤ 100ppm in each material group of the submitted sample.	PASS
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Ray Chang
 Ray Chang, Ph.D. / Department Manager
 Signed for and on behalf of
 SGS Taiwan Ltd.
 Chemical Laboratory-Kaohsiung



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Remark:

1. In accordance with Chapter 173-334-080 WAC Children's Safe Products Act – Reporting Rule, each chemical on the CHCC list that is a contaminant present in a product component must be reported at any concentration above 100 ppm.
2. For a CHCC that is intentionally added to the product component, client is suggested to identify the exact concentration of the CHCC at practical quantification limit (PQL) by requesting quantitative analysis from the laboratory.

http://www.ecy.wa.gov/programs/swfa/cspa/pdf/cspaguide_pql.pdf (Reporting Guidance – Practical Quantification Limits (PQLs))

3. The list of chemicals of high concern to children (CHCCs) was referenced from the reporting list of chemicals of high concern to children (CHCC list), section 173-334-130, Chapter 173-334 WAC, Children's Safe Product Act.
4. Test results in this report are based on the tested sample.

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Test Sample:

Sample breakdown list:

Material Group	Test Component	Component Description
A	1	White PVC Powder

Sample photo:

SFW23100485



SGS authenticate the photo on original report only

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Test Result:

Formaldehyde and Acetaldehyde

Method: With reference to ISO 17226-1:2021. Analysis was performed by HPLC-DAD.

Test Item (CAS No.)		Concentration (ppm)		RL (ppm)
		1		
Formaldehyde	(50-00-0)	ND		3
Acetaldehyde	(75-07-0)	4.47		3
Comment		PASS		--

AZO dyes

Method: With reference to EN 14362-1:2017 – Analysis was performed by GC-MS/HPLC-DAD.

Test Item (CAS No.)		Concentration (ppm)		RL (ppm)
		1		
Aniline	(62-53-3)	ND		5
2-Aminotoluene	(95-53-4)	ND		5
2,4-Diaminotoluene	(95-80-7)	ND		5
4-Chloroaniline	(106-47-8)	ND		5
3,3'-Dimethylbenzidine and Dyes Metabolized to 3,3'-Dimethylbenzidine	(119-93-7)	ND		5
Comment		PASS		--

VOC

Method: Solvent extraction. Analysis was performed by GC-MS.

Test Item (CAS No.)		Concentration (ppm)		RL (ppm)
		1		
Benzene	(71-43-2)	ND		5
Vinyl chloride	(75-01-4)	ND		5
Methylene chloride	(75-09-2)	ND		5
1,1,2,2-Tetrachloroethane	(79-34-5)	ND		5
Ethylbenzene	(100-41-4)	ND		5
Styrene	(100-42-5)	ND		5
Toluene	(108-88-3)	ND		5
Phenol	(108-95-2)	ND		5
Tetrachloroethene	(127-18-4)	ND		5
N-Methylpyrrolidone	(872-50-4)	ND		5
Carbon disulfide	(75-15-0)	ND		5
Methyl ethyl ketone	(78-93-3)	ND		5
Hexachlorobutadiene (HCDB)	(87-68-3)	ND		5

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Test Item (CAS No.)		Concentration (ppm)		RL (ppm)
		1		
Acrylonitrile	(107-13-1)	ND		5
1,4-Dioxane	(123-91-1)	ND		5
Comment		PASS		--

Phthalates

Method: With reference to ISO 14389:2014. Analysis was performed by GC-MS.

Test Item (CAS No.)		Concentration (ppm)		RL (ppm)
		1		
Diethyl phthalate (DEP)	(84-66-2)	ND		30
Di-n-butyl phthalate (DBP)	(84-74-2)	ND		30
Di-n-Hexyl phthalate (DnHP)	(84-75-3)	ND		30
Butyl benzyl phthalate (BBP)	(85-68-7)	ND		30
Di-2-ethylhexyl phthalate (DEHP)	(117-81-7)	ND		30
Di-n-octyl phthalate (DnOP)	(117-84-0)	ND		30
Diisodecyl phthalate (DIDP)	(26761-40-0)	ND		30
Diisononyl phthalate (unbranched) (DINP)	(28553-12-0)	ND		30
Dicyclohexyl phthalate (DCHP)	(84-61-7)	ND		30
Diisobutyl phthalate (DIBP)	(84-69-5)	ND		30
Di-(2-methoxyethyl) phthalate (DMEP)	(117-82-8)	ND		30
Dipentyl phthalate (DPP)	(131-18-0)	ND		30
Comment		PASS		--

Preservation

Method: Solvent Extraction – Analysis was performed by HPLC/DAD, GC-MS.

Test Item (CAS No.)		Concentration (ppm)		RL (ppm)
		1		
Propyl paraben	(94-13-3)	ND		10
Butyl paraben	(94-26-8)	ND		10
Methyl paraben	(99-76-3)	ND		10
4-Hydroxybenzoic acid	(99-96-7)	ND		10
Ethyl paraben	(120-47-8)	ND		10
Benzophenone-2 (Bp-2)	(131-55-5)	ND		10
2-Ethyl-hexyl-4-methoxycinnamate	(5466-77-3)	ND		10
2-Ethylhexanoic acid	(149-57-5)	ND		5
Comment		PASS		--

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Heavy Metals

Method: With reference to USEPA 3052:1996 – Analysis was performed by ICP-OES.

Test Item (CAS No.)		Concentration (ppm)		RL (ppm)
		1		
Mercury & mercury compounds including methyl mercury (22967-92-6) ▼	(7439-97-6)	ND		2
Antimony & Antimony compounds ▼	(7440-36-0)	ND		2
Arsenic & Arsenic compounds including arsenic trioxide (1327-53-3) & dimethyl arsenic acid (75-60-5) ▼	(7440-38-2)	ND		2
Cadmium & cadmium compounds ▼	(7440-43-9)	ND		2
Cobalt & cobalt compounds ▼	(7440-48-4)	ND		2
Comment		PASS		--

Perfluorooctane sulfonic acid and its salts; PFOS

Method: With reference to CEN/TS 15968:2010 – Analysis was performed by HPLC-MS-MS.

Test Item (CAS No.)		Concentration (ppm)		RL (ppm)
		1		
Perfluorooctane sulfonic acid and its salts; PFOS	(1763-23-1)	ND		10
Comment		PASS		--

Perfluorooctanoic acid (PFOA) and related substances

Method: With reference to CEN/TS 15968:2010 – Analysis was performed by HPLC-MS-MS.

Test Item (CAS No.)		Concentration (ppm)		RL (ppm)
		1		
Perfluorooctanoic acid (PFOA) and related substances	(335-67-1)	ND		10
Comment		PASS		--

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Phenols

Method: Solvent Extraction – Analysis was performed by HPLC-MS.

Test Item (CAS No.)		Concentration (ppm)		RL (ppm)
		1		
4-Nonylphenol	(104-40-5)	ND		10
Nonyl phenol	(25154-52-3)	ND		10
4-Nonyl phenol (NP) branched	(84852-15-3)	ND		10
4-tert-Octylphenol	(140-66-9)	ND		10
4-Octylphenol	(1806-26-4)	ND		10
Comment		PASS		--

Flame Retardants

Method: Solvent Extraction – Analysis was performed by GC-MS and LC-MS.

Test Item (CAS No.)		Concentration (ppm)		RL (ppm)
		1		
Hexabromocyclododecane (HBCDD)	(25637-99-4)	ND		20
Decabromodiphenyl ether (BDE-209)	(1163-19-5)	ND		20
Tetrabromobisphenol A (TBBPA)	(79-94-7)	ND		20
Tris(2-chloroethyl) phosphate (TCEP)	(115-96-8)	ND		20
Tris(1,3-dichloro-2-propyl) phosphate (TDCPP)	(13674-87-8)	ND		20
Triphenyl phosphate (TPP)	(115-86-6)	ND		20
Tris (2,3-dibromopropyl) phosphate (TDBPP)	(126-72-7)	ND		20
Tri-n-butyl phosphate (TNBP)	(126-73-8)	ND		20
Ethylhexyl diphenyl phosphate (EHDPP)	(1241-94-7)	ND		20
Tricresyl phosphate (TCP)	(1330-78-5)	ND		20
Tris(1-chloro-2-propyl) phosphate (TCPP)	(13674-84-5)	ND		20
Bis (2-ethylhexyl) tetrabromophthalate (TBPH)	(26040-51-7)	ND		20
Bis(chloromethyl)propane-1,3-diyl tetrakis-(2-chloroethyl) bis(phosphate) (V6)	(38051-10-4)	ND		20
Isopropylated triphenyl phosphate (IPTPP)	(68937-41-7)	ND		20
Decabromodiphenyl ethane (DBDPE)	(84852-53-9)	ND		20
2-ethylhexyl-2,3,4,5-tetrabromobenzoate (TBB)	(183658-27-7)	ND		20
Comment		PASS		--

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N-nitrosamines

Method: With reference to GB/T 24153:2009. Analysis was performed by GC-MS.

Test Item (CAS No.)		Concentration (ppm)		RL (ppm)
		1		
N-Nitrosodimethylamine	(62-75-9)	ND		0.5
N-Nitrosodiphenylamine	(86-30-6)	ND		0.5
Comment		PASS		--

Glycol ethers

Method: Solvent Extraction – Analysis was performed by GC-MS.

Test Item (CAS No.)		Concentration (ppm)		RL (ppm)
		1		
2-Methoxyethanol	(109-86-4)	ND		10
Ethylene glycol monoethyl ether	(110-80-5)	ND		10
Ethylene glycol	(107-21-1)	ND		10
Comment		PASS		--

Estragole

Method: Solvent Extraction – Analysis was performed by GC-MS.

Test Item (CAS No.)		Concentration (ppm)		RL (ppm)
		1		
Estragole	(140-67-0)	ND		10
Comment		PASS		--

Bisphenol

Method: Solvent Extraction – Analysis was performed by HPLC-MS-MS.

Test Item (CAS No.)		Concentration (ppm)		RL (ppm)
		1		
Bisphenol A (BPA)	(80-05-7)	ND		1
Bisphenol S (BPS)	(80-09-1)	ND		1
Bisphenol F (BPF)	(620-92-8)	ND		1
Comment		PASS		--

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Chloroorganic carriers

Method: With reference to EN 17137:2018. Analysis was performed by GC-MS.

Test Item (CAS No.)		Concentration (ppm)		RL (ppm)
		1		
Hexachlorobenzene	(118-74-1)	ND		0.1
Pentachlorobenzene	(608-93-5)	ND		0.1
Comment		PASS		--

C.I. Solvent Yellow 14

Method: With reference to DIN 54231:2022. Analysis was performed by LC-MS.

Test Item (CAS No.)		Concentration (ppm)		RL (ppm)
		1		
C.I. Solvent Yellow 14	(842-07-9)	ND		15
Comment		PASS		--

Butylated hydroxyanisole (BHA)

Method: With reference to ASTM D4275:2017. Analysis was performed by GC-MS.

Test Item (CAS No.)		Concentration (ppm)		RL (ppm)
		1		
Butylated hydroxyanisole (BHA)	(25013-16-5)	ND		1
Comment		PASS		--

Chlorinated paraffins

Method: Solvent Extraction – Analysis was conducted by GC-NCI-MS.

Test Item (CAS No.)		Concentration (ppm)		RL (ppm)
		1		
Short-chain chlorinated paraffins (SCCP)	(85535-84-8)	ND		30
Chlorinated paraffins	(108171-26-2)	ND		30
Comment		PASS		--

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Note:

1. RL = Reporting Limit.
2. Regulatory limit: 100 ppm (mg/kg) for each CHCC as contaminant.
3. ND = Not Detected (lower than RL).
4. ▼The test result is based on the calculation of selected element(s) / marker(s) and to the worst-case scenario. The client is advised to review the chemical formulation to ascertain above metal substances present in the article.

*** End of Report ***

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