Test Report

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Company Name shown on Report	NINGBO XINQIAO CHEMICALIND CO.,LTD
Address	NO98 JINJIRD,BEILUNDISTRICE NINGBO CITY,ZHEJIANG PROVINCE

The following sample(s) and sample information was/were submitted and identified by/on the behalf of the applicant

Sample Name	expandable polystyrene
Model No.	E/B/H/F/FM/FG grade
Sample Received Date	Jul. 24, 2025
Testing Period	Jul. 24, 2025 to Jul. 29, 2025

Test Conducted:

As requested by the applicant. For details refer to next page(s)

Approved by: Hill Zheng Date Jul. 29, 2025

Hill Zheng
Technical Manager

No. M827991890

Centre Testing International Group Co.,Ltd.
CTI Building, Xing Dong Community, Xin'an Sub-district, Bao'an District, Shenzhen City, Guangdong Province, P.R. China

Test Report

Executive Summary:

TEST REQUEST	CONCLUSION
US Toxics in Packaging Clearinghouse (TPCH) Model Legislation (2021 Update)	
- Heavy metals (Pb, Cd, Hg & Cr(VI))	**PASS**
- Phthalates	**PASS**
- Perfluoroalkyl and polyfluoroalkyl substances (PFAS)	**PASS**

********** For further details, please refer to the following page(s) **********

Test Report

US Toxics in Packaging Clearinghouse (TPCH) Model Legislation (2021 Update)

▼Heavy metals (Pb, Cd, Hg & Cr(VI))

Test Method: IEC 62321-5:2013 & IEC 62321-4:2013+AMD1:2017 CSV & IEC 62321-7-2:2017;
Test Equipment: ICP-OES & UV-Vis

Tested Item(s)	Result (mg/kg)	MDL (mg/kg)	Limit
	005		
Lead (Pb)	N.D.	2	Total content (Pb + Cd + Hg + Cr(VI)) < 100 mg/kg
Cadmium (Cd)	N.D.	2	
Mercury (Hg)	N.D.	2	
Hexavalent Chromium (Cr(VI))	N.D.	8	

Remark:
- MDL = Method Detection Limit
- N.D. = Not Detected (<MDL)
- mg/kg = ppm = parts per million

▼Phthalates

Test Method: CPSC-CH-C1001-09.4; Test Equipment: GC-MS

No.	Tested Item(s)	CAS No.	Result (mg/kg)	MDL (mg/kg)	Limit (mg/kg)
			005		
1	Dibutyl phthalate (DBP)	84-74-2	N.D.	30	--
2	Butyl benzyl phthalate (BBP)	85-68-7	N.D.	30	--
3	Di-(2-ethylhexyl) phthalate (DEHP)	117-81-7	N.D.	30	--
4	Di-n-octyl phthalate (DNOP)#	117-84-0	N.D.	30	--
5	Di-isononyl phthalate (DINP)	28553-12-0, 68515-48-0	N.D.	50	--
6	Di-iso-decyl phthalate (DIDP)#	26761-40-0, 68515-49-1	N.D.	50	--
7	Diethyl phthalate (DEP)#	84-66-2	N.D.	30	--
8	Diisobutyl phthalate (DIBP)	84-69-5	N.D.	30	--
9	Dipentyl phthalate (DPP)	131-18-0	N.D.	30	--
10	Dicyclohexyl phthalate (DCHP)	84-61-7	N.D.	30	--
11	Di-n-hexyl phthalate (DNHP)	84-75-3	N.D.	30	--
12	Bis(2-methoxyethyl) phthalate (DMEP)	117-82-8	N.D.	30	--
13	Dimethyl phthalate (DMP)#	131-11-3	N.D.	30	--

14	Dipropyl phthalate (DPrP) #	131-16-8	N.D.	30	--
15	Diisooctyl phthalate (DIOP) #	27554-26-3	N.D.	50	--
16	Diisopentylphthalate (DIPP) #	605-50-5	N.D.	30	--
17	N-Pentyl-isopentyl phthalate (NIPP) #	776297-69-9	N.D.	30	--
18	Di-iso-hexyl-phthalates (DIHxP) #	71850-09-4	N.D.	30	--
19	1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich (DIHP) #	71888-89-6	N.D.	50	--
20	1,2-Benzenedicarboxylic acid, di-(C7-11)-branched and linear alkyl esters (DHNUP) #	68515-42-4	N.D.	50	--
21	1,2-Benzenedicarboxylic acid, dipentylester, branched and linear (BADP) #	84777-06-0	N.D.	30	--
22	1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear (NHIHP) #	68515-50-4	N.D.	50	--
23	1,2-benzenedicarboxylic acid, di-C6-10-alkyl esters; 1,2-benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters with ≥ 0.3% of dihexyl phthalate#	68515-51-5, 68648-93-1	N.D.	50	--
-	Total	-	N.D.	--	100

Remark:

- MDL = Method Detection Limit
- N.D. = Not Detected (<MDL)
- mg/kg = ppm = parts per million
- According to US TPCH Model Legislation (2021 update), phthalates or ortho-phthalates are defined as a class of chemicals. There is not an official list of phthalates or ortho-phthalates from TPCH. Conclusion is based on the phthalates or ortho-phthalates tested per client's requirement.

▼**PerfluoroalkyI and polyfluoroalkyl substances (PFAS)#**

Test Method: CEN/TS 15968:2010; Test Equipment: LC-MS-MS & GC-MS

No.	Tested Item(s)	CAS No.	Result (mg/kg)	MDL (mg/kg)
			005	
1	Perfluorooctane Sulfonates (PFOS)	1763-23-1	N.D.	0.010
2	Perfluorooctanesulfonic acid, potassium salt (PFOS-K)*	2795-39-3	N.D.	0.020
3	Perfluorooctanesulfonic acid, lithium salt (PFOS-Li)*	29457-72-5	N.D.	0.010
4	Perfluorooctanesulfonic acid, ammonium salt (PFOS-NH_4)*	29081-56-9	N.D.	0.010
5	Perfluorooctane sulfonate diethanolamine salt (PFOS-$NH(OH)_2$)*	70225-14-8	N.D.	0.020
6	Perfluorooctanesulfonic acid, tetraethylammonium salt (PFOS-$N(C_2H_5)_4$)*	56773-42-3	N.D.	0.020
7	Didecyl dimethyl ammonium perfluorooctane sulfonate (PFOS-DDA)*	251099-16-8	N.D.	0.020
8	Perfluoro-1-octanesulfonyl fluoride (PFOSF)*	307-35-7	N.D.	0.010
9	N-Ethylperfluoro-1-octanesulfonamide (N-Et-FOSA)	4151-50-2	N.D.	0.050
10	N-Methylperfluoro-1-octanesulfonamide (N-Me-FOSA)	31506-32-8	N.D.	0.050
11	2-(N-Ethylperfluoro-1-octanesulfonamido)-ethanol (N-Et-FOSE)	1691-99-2	N.D.	0.050
12	2-(N-Methylperfluoro-1-octanesulfonamido)-ethanol (N-Me-FOSE)	24448-09-7	N.D.	0.050
13	Perfluorooctanoic acid (PFOA)	335-67-1	N.D.	0.010
14	Ammonium pentadecafluorooctanoate (APFO)*	3825-26-1	N.D.	0.010
15	Sodium perfluorooctanoate (PFOA-Na)*	335-95-5	N.D.	0.020
16	Potassium perfluorooctanoate (PFOA-K)*	2395-00-8	N.D.	0.020
17	Silver perfluorooctanoate (PFOA-Ag)*	335-93-3	N.D.	0.020
18	Perfluorooctanoyl fluoride (PFOA-F)*	335-66-0	N.D.	0.010
19	Methyl perfluorooctanoate (Me-PFOA)	376-27-2	N.D.	0.010
20	Ethyl perfluorooctanoate (Et-PFOA)	3108-24-5	N.D.	0.010
21	Perfluorooctyl iodide (PFOI)	507-63-1	N.D.	0.200
22	1H,1H,2H,2H-Perfluoro-1-decanol (8:2 FTOH)	678-39-7	N.D.	0.200
23	1H,1H,2H,2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	N.D.	0.200
24	1,1,2,2-Tetrahydroperfluorodecyl acrylate (8:2 FTAC)	27905-45-9	N.D.	0.200
25	2-Propenoic acid, 2-methyl-, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl ester (8:2 FTMA)	1996-88-9	N.D.	0.200
26	Perfluorooctanesulfonamide (PFOSA)	754-91-6	N.D.	0.010
27	Perfluorohexanoic acid (PFHxA)	307-24-4	N.D.	0.010
28	Perfluoroheptanoic acid (PFHpA)	375-85-9	N.D.	0.010
29	Perfluorobutane sulfonic acid (PFBS)	375-73-5	N.D.	0.010
30	Perfluorohexanesulfonic acid (PFHxS)	355-46-4	N.D.	0.010
31	Perfluoroheptanesulfonic acid (PFHpS)	375-92-8	N.D.	0.010

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No.	Tested Item(s)	CAS No.	Result (mg/kg)	MDL (mg/kg)
			005	
32	Perfluoroundecanoic acid (PFUnDA)	2058-94-8	N.D.	0.010
33	Perfluorododecanoic acid (PFDoDA)	307-55-1	N.D.	0.010
34	Perfluorotridecanoic acid (PFTrDA)	72629-94-8	N.D.	0.010
35	Perfluorotetradecanoic acid (PFTeDA)	376-06-7	N.D.	0.010
36	Henicosafluorodecanesulphonic acid (PFDS)	335-77-3 126105-34-8	N.D.	0.010
37	1H,1H,2H,2H-Perfluoro-octane-sulphonic acid (6:2FTS)	27619-97-2	N.D.	0.010
38	Perfluoro-butanoic acid (PFBA)	375-22-4	N.D.	0.010
39	Perfluoropentanoic acid (PFPeA)	2706-90-3	N.D.	0.010
40	Perfluorononanoic acid (PFNA)	375-95-1	N.D.	0.010
41	Perfluorodecanoic acid (PFDA)	335-76-2	N.D.	0.010
42	Perfluoro-3,7-dimethyloctanoic acid (PF-3,7-DMOA)	172155-07-6	N.D.	0.010
43	7H-Dodecafluoro heptane acid (HPFHpA)	1546-95-8	N.D.	0.010
44	Tetrabutylphosphonium 2H,2H-Perfluorodecanoate (H_2PFDA-P(C_4H_9)$_4$)	882489-14-7	N.D.	0.010
45	2H,2H,3H,3H-Perfluoroundecanoic acid (H_4PFUnA)	34598-33-9	N.D.	0.010
46	Perfluorobutanesulfonate K-salt (PFBS-K)*	29420-49-3	N.D.	0.020
47	1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, sodium salt (PFHxS-Na)*	82382-12-5	N.D.	0.020
48	Perfluoroheptanesulfonate NA-salt (PFHpS-Na)*	21934-50-9	N.D.	0.010
49	Perfluorodecanesulfonate NA-salt (PFDS-Na)*	2806-15-7	N.D.	0.010
50	Potassium perfluorohexane-1-sulphonate (PFHxS-K)*	3871-99-6	N.D.	0.020
51	Perfluorodecanesulfonate K-salt (PFDS-K)*	2806-16-8	N.D.	0.020
52	Sodium heptadecafluorononanoate (PFNA-Na)*	21049-39-8	N.D.	0.010
53	Perfluorononanoate ammounium salt (PFNA-NH_4)*	4149-60-4	N.D.	0.010
54	Sodium nonadecafluorodecanoate (PFDA-Na)*	3830-45-3	N.D.	0.010
55	1H.1H.2H.2H-Perfluoro-1-hexanol (4:2 FTOH)	2043-47-2	N.D.	0.200
56	1H.1H.2H.2H-Perfluoro-1-octanol (6:2 FTOH)	647-42-7	N.D.	0.200
57	1H,1H,2H,2H-Perfluoro octyl acrylate (6:2 FTA)	17527-29-6	N.D.	0.200
58	1H,1H,2H,2H-Perfluoro-1-dodecanol (10:2 FTOH)	865-86-1	N.D.	0.200
59	1H,1H,2H,2H-Tetrahydroperfluorododecyl acrylate (10:2 FTA)	17741-60-5	N.D.	0.200
60	Perfluorodecanoate ammonium salt (APFDA)*	3108-42-7	N.D.	0.010
61	Ammonium henicosafluorodecanesulphonate (PFDS-NH_4)*	67906-42-7	N.D.	0.010
62	1H,1H,2H,2H-Perfluorodecyltriethoxysilane (PFSI)	101947-16-4	N.D.	0.200
63	Decane, 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8-heptadecafluoro-10-iodo- (8:2 FTI)	2043-53-0	N.D.	0.200
64	8:2 Fluorotelomer phosphate diester (8:2diPAP)	678-41-1	N.D.	0.200

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No.	Tested Item(s)	CAS No.	Result (mg/kg)	MDL (mg/kg)
			005	
65	2,3,3,3-tetrafluoro-2-(heptafluoropropoxy) propionic acid, its salts and its acyl halides (covering any of their individual isomers and combinations thereof)	62037-80-3; 13252-13-6; 67118-55-2; 2062-98-8	N.D.	0.500
66	Perfluorooctadecanoic acid (PFODA)	16517-11-6	N.D.	0.010
67	Perfluoropalmitic acid (PFHxDA)	67905-19-5	N.D.	0.010
68	Ammonium perfluorohexanoate (PFHxA-NH_4)*	21615-47-4	N.D.	0.020
69	2H,2H-Perfluorodecanoate (H_2PFDA)	27854-31-5	N.D.	0.010
70	Perfluorobutane sulfonic acid hydrate (PFBS-H_2O)	59933-66-3	N.D.	0.020
71	Potassium Perfluoroheptanesulfonate (PFHpS-K)*	60270-55-5	N.D.	0.020
72	1H,1H,2H,2H-Perfluorooctyl methacrylate (6:2 FTMAC)	2144-53-8	N.D.	0.200
73	N-Methyl perfluorooctanesulfonamidoacetic acid (N-Me-FOSAA)	2355-31-9	N.D.	0.050
74	N-ethyl-N-[(heptadecafluorooctyl)sulphonyl] glycine (N-Et-FOSAA)	2991-50-6	N.D.	0.050
75	Sodium perfluorooctane sulfonate (PFOS-Na)*	4021-47-0	N.D.	0.010

Remark:

- MDL = Method Detection Limit
- N.D. = Not Detected (<MDL)
- mg/kg = ppm = parts per million
- *The test result of the substance is converted from the test result of certain compound.
- The requirement of US Toxics in Packaging Clearinghouse (TPCH) Model Legislation (2021 Update): Prohibition of containing PFAS in package or packaging components.
- According to US TPCH Model Legislation (2021 update), Perfluoroalkyl and polyfluoroalkyl substances (PFAS) are defined as a class of chemicals. There is not an official list of PFAS from TPCH. Conclusion is based on the 75 PFAS tested per client's requirement.

Sample/Part Description

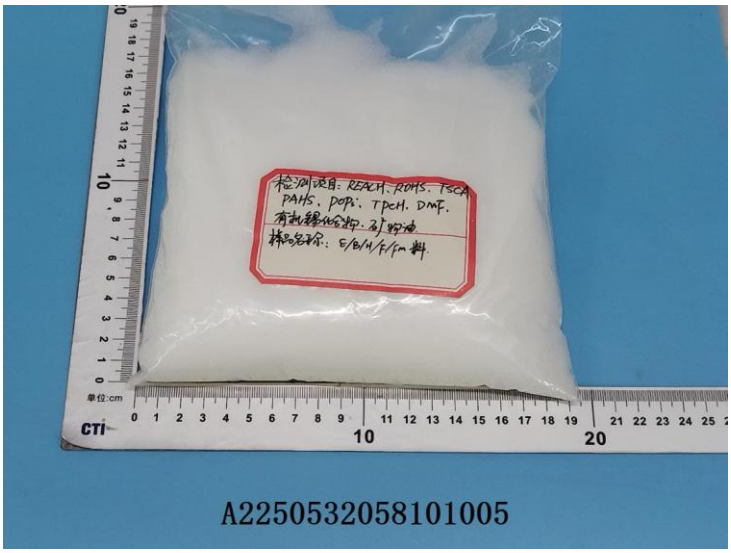
No.	CTI Sample ID	Description
1	005	Transparent plastic grains

Note:

- According to the client's statement, the reasons for the multiple information in the "sample information" of this report may include (but are not limited to): supplying to different buyers, being sold to different countries or regions, former names, or mixtures of several substances.
- "#"indicates the item(s)/method(s) is (are) not in CNAS accreditation scope.
- According to the client's statement, the Company Name shown on Report in this report and the Company Name shown on Report in the report A2250532058101005 are the Group-Branch relations, the test result(s) of this report is/are presented in reference to the result(s) that reported in A2250532058101005.

Test Report

Photo(s) of the sample(s)



Statement:

1. This report is considered invalid without approved signature, special seal and the seal on the perforation;
2. The Company Name shown on Report and Address, the sample(s) and sample information was/were provided by the applicant who should be responsible for the authenticity which CTI hasn't verified;
3. The result(s) shown in this report refer(s) only to the sample(s) tested;
4. Unless otherwise stated, the decision rule for conformity reporting is based on Binary Statement for Simple Acceptance Rule (w=0) stated in ILAC-G8:09/2019 / CNAS-GL015:2022;
5. Without written approval of CTI, this report can't be reproduced except in full;
6. In case of any discrepancy between the English version and Chinese version of the testing reports (if generated), the Chinese version shall prevail.

*** End of Report ***