

Test Report No.: EKR23100711 Date: 12-Jan-2023 Page: 1 of 12

GRAND PACIFIC PETROCHEMICAL CORPORATION
10 FL., NO. 1, SEC. 4, NANJING E. ROAD, TAIPEI, TAIWAN R.O.C

The following sample(s) was/were submitted and identified by the applicant as:

Sample Name : ABS Style/Item No. : D-150

GRAND PACIFIC PETROCHEMICAL CORP.

Sample Receiving Date

Sample Submitted By

: 06-Jan-2023

Testing Period : 06-Jan-2023 to 12-Jan-2023

Test Requested : (1) As specified by client, with reference to RoHS 2011/65/EU Annex II and amending

Directive (EU) 2015/863 to determine Cadmium, Lead, Mercury, Cr(VI), PBBs, PBDEs,

DBP, BBP, DEHP, DIBP contents in the submitted sample(s).

(2) As specified by client, to test PAHs and other item(s).

Test Results: Please refer to following pages.

Conclusion : (1) Based on the performed tests on submitted sample(s), the test results of Cadmium,

Lead, Mercury, Cr(VI), PBBs, PBDEs, DBP, BBP, DEHP, DIBP comply with the limits as set by RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.

Ray Chang Ph.D./Department Manager Signed for and on behalf SGS TAIWAN LTD.
Chemical Laboratory-Kaohsiung



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Test Part Description

No.1 : WHITE PELLETS

Test Result(s)

Test Item(s)	Method	Unit	MDL	Result No.1	Limit
Cadmium (Cd) (CAS No.: 7440-43-9)	With reference to IEC 62321-5: 2013, analysis was performed by ICP-OES.	mg/kg	2	n.d.	100
Lead (Pb) (CAS No.: 7439-92-1)	With reference to IEC 62321-5: 2013, analysis was performed by ICP-OES.	mg/kg	2	n.d.	1000
Mercury (Hg) (CAS No.: 7439-97-6)	With reference to IEC 62321-4: 2013+ AMD1: 2017, analysis was performed by ICP-OES.	mg/kg	2	n.d.	1000
Hexavalent Chromium Cr(VI) (CAS No.: 18540-29-9)	With reference to IEC 62321-7-2: 2017, analysis was performed by UV-VIS.	mg/kg	8	n.d.	1000
Monobromobiphenyl		mg/kg	5	n.d.	-
Dibromobiphenyl	1	mg/kg	5	n.d.	-
Tribromobiphenyl	1	mg/kg	5	n.d.	-
Tetrabromobiphenyl	1	mg/kg	5	n.d.	-
Pentabromobiphenyl	With reference to IEC 62321-6: 2015,	mg/kg	5	n.d.	-
Hexabromobiphenyl	analysis was performed by GC/MS.	mg/kg	5	n.d.	-
Heptabromobiphenyl	analysis was performed by GC/MS.	mg/kg	5	n.d.	-
Octabromobiphenyl	1	mg/kg	5	n.d.	-
Nonabromobiphenyl	1	mg/kg	5	n.d.	-
Decabromobiphenyl	1	mg/kg	5	n.d.	-
Sum of PBBs		mg/kg	=.	n.d.	1000
Monobromodiphenyl ether		mg/kg	5	n.d.	-
Dibromodiphenyl ether	1	mg/kg	5	n.d.	-
Tribromodiphenyl ether	1	mg/kg	5	n.d.	-
Tetrabromodiphenyl ether	1	mg/kg	5	n.d.	-
Pentabromodiphenyl ether	With reference to IEC 62221 6: 2015	mg/kg	5	n.d.	-
Hexabromodiphenyl ether	With reference to IEC 62321-6: 2015, analysis was performed by GC/MS.	mg/kg	5	n.d.	-
Heptabromodiphenyl ether	Tariarysis was periorified by GC/MS.	mg/kg	5	n.d.	-
Octabromodiphenyl ether]	mg/kg	5	n.d.	-
Nonabromodiphenyl ether]	mg/kg	5	n.d.	-
Decabromodiphenyl ether		mg/kg	5	n.d.	-
Sum of PBDEs]	mg/kg	-	n.d.	1000

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GRAND PACIFIC PETROCHEMICAL CORPORATION 10 FL., NO. 1, SEC. 4, NANJING E. ROAD, TAIPEI, TAIWAN R.O.C

Test Item(s)	Method	Unit	MDL	Result	Limit
				No.1	
Butyl benzyl phthalate (BBP) (CAS No.:	With reference to IEC 62321-8: 2017,	mg/kg	50	n.d.	1000
85-68-7)	analysis was performed by GC/MS.				
Dibutyl phthalate (DBP) (CAS No.: 84-	With reference to IEC 62321-8: 2017,	mg/kg	50	n.d.	1000
74-2)	analysis was performed by GC/MS.				İ
Diisobutyl phthalate (DIBP) (CAS No.:	With reference to IEC 62321-8: 2017,	mg/kg	50	n.d.	1000
84-69-5)	analysis was performed by GC/MS.				
Di-(2-ethylhexyl) phthalate (DEHP)	With reference to IEC 62321-8: 2017,	mg/kg	50	n.d.	1000
(CAS No.: 117-81-7)	analysis was performed by GC/MS.				
Diisononyl phthalate (DINP) (CAS No.:	With reference to IEC 62321-8: 2017,	mg/kg	50	n.d.	-
28553-12-0, 68515-48-0)	analysis was performed by GC/MS.				
Diisodecyl phthalate (DIDP) (CAS No.:	With reference to IEC 62321-8: 2017,	mg/kg	50	n.d.	-
26761-40-0, 68515-49-1)	analysis was performed by GC/MS.	3 3			
Di-n-octyl phthalate (DNOP) (CAS No.:	With reference to IEC 62321-8: 2017,	mg/kg	50	n.d.	-
117-84-0)	analysis was performed by GC/MS.	J. J.			
Di-n-pentyl phthalate (DNPP) (CAS No.:	With reference to IEC 62321-8: 2017,	mg/kg	50	n.d.	-
131-18-0)	analysis was performed by GC/MS.	J, J			
Di-n-hexyl phthalate (DNHP) (CAS No.:	With reference to IEC 62321-8: 2017,	mg/kg	50	n.d.	-
84-75-3)	analysis was performed by GC/MS.	J. J.			
Bis-(2-methoxyethyl) phthalate (DMEP)	With reference to IEC 62321-8: 2017,	mg/kg	50	n.d.	-
(CAS No.: 117-82-8)	analysis was performed by GC/MS.	3 3			
Fluorine (F) (CAS No.: 14762-94-8)	With reference to BS EN 14582: 2016,	mg/kg	50	n.d.	-
	analysis was performed by IC.	J. J.			
Chlorine (Cl) (CAS No.: 22537-15-1)	With reference to BS EN 14582: 2016,	mg/kg	50	n.d.	-
	analysis was performed by IC.	J, J			
Bromine (Br) (CAS No.: 10097-32-2)	With reference to BS EN 14582: 2016,	mg/kg	50	n.d.	-
	analysis was performed by IC.	J, J			
lodine (I) (CAS No.: 14362-44-8)	With reference to BS EN 14582: 2016,	mg/kg	50	n.d.	-
	analysis was performed by IC.	J, J			
Hexabromocyclododecane (HBCDD)	With reference to IEC 62321-9: 2021,	mg/kg	20	n.d.	-
and all major diastereoisomers	analysis was performed by GC/MS.	5, 5			
identified (α- HBCDD, β- HBCDD, γ-					
HBCDD) (CAS No.: 25637-99-4, 3194-					
55-6 (134237-51-7, 134237-50-6,					
134237-52-8))					

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Test Item(s)	Method	Unit	MDL	Result	Limit
				No.1	
Polycyclic Aromatic Hydrocarbons					
(PAHs)					
Benzo[a]pyrene (CAS No.: 50-32-8)		mg/kg	0.2	n.d.	-
Benzo[e]pyrene (CAS No.: 192-97-2)		mg/kg	0.2	n.d.	-
Benzo[a]anthracene (CAS No.: 56-55-3)		mg/kg	0.2	n.d.	-
Benzo[b]fluoranthene (CAS No.: 205-		mg/kg	0.2	n.d.	-
99-2)					
Benzo[j]fluoranthene (CAS No.: 205-82-		mg/kg	0.2	n.d.	-
3)					
Benzo[k]fluoranthene (CAS No.: 207-		mg/kg	0.2	n.d.	-
08-9)					
Chrysene (CAS No.: 218-01-9)	With reference to AfPS GS 2019:01	mg/kg	0.2	n.d.	-
Dibenzo[a,h]anthracene (CAS No.: 53-	PAK, analysis was performed by	mg/kg	0.2	n.d.	-
70-3)	GC/MS.				
Benzo[g,h,i]perylene (CAS No.: 191-24-	GC/1V13.	mg/kg	0.2	n.d.	-
2)					
Indeno[1,2,3-c,d]pyrene (CAS No.: 193-		mg/kg	0.2	n.d.	-
39-5)					
Anthracene (CAS No.: 120-12-7)		mg/kg	0.2	n.d.	-
Fluoranthene (CAS No.: 206-44-0)		mg/kg	0.2	n.d.	-
Phenanthrene (CAS No.: 85-01-8)		mg/kg	0.2	n.d.	-
Pyrene (CAS No.: 129-00-0)		mg/kg	0.2	n.d.	-
Naphthalene (CAS No.: 91-20-3)		mg/kg	0.2	n.d.	-
Sum of 15 PAHs		mg/kg	-	n.d.	-
Acenaphthylene (CAS No.: 208-96-8)	With reference to AfPS GS 2019:01	mg/kg	0.2	n.d.	=
Acenaphthene (CAS No.: 83-32-9)	PAK, analysis was performed by	mg/kg	0.2	n.d.	=
Fluorene (CAS No.: 86-73-7)	GC/MS.	mg/kg	0.2	n.d.	-

Note:

- 1. mg/kg = ppm ; 0.1wt% = 0.1% = 1000ppm
- 2. MDL = Method Detection Limit
- 3. n.d. = Not Detected (Less than MDL)
- 4. "-" = Not Regulated
- 5. 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. According to this rule, the judgement of conformity is based on the comparing test results with limits.

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Remark:

△ AfPS (German commission for Product Safety): GS PAHs requirements

				1		
	Category 1	Category 2		Category 3		
Parameter	be placed in the mouth, or materials in toys (Directive 2009/48/EC) or articles for children up to 3 years of age	Materials that are not in Category 1, with intended or foreseeable long-term skin contact (> 30 seconds) or short-term repetitive contact with the skin.		Materials not covered by		
	30 seconds).	a. Use by children under 14	b. Other consumer products	a. Use by children under 14	b. Other consumer products	
Naphthalene	< 1	< 2		< 10		
Phenanthrene						
Anthracene	< 1 Sum	< 5 Sum	< 10 Sum	< 20 Sum	< 50 Sum	
Fluoranthene	\ 1 Juiii	\ 3 3uiii	< 10 3um	< 20 Julii	< 50 3um	
Pyrene						
Benzo[a]anthracene	< 0.2	< 0.2	< 0.5	< 0.5	< 1	
Chrysene	< 0.2	< 0.2	< 0.5	< 0.5	< 1	
Benzo[b]fluoranthene	< 0.2	< 0.2	< 0.5	< 0.5	< 1	
Benzo[j]fluoranthene	< 0.2	< 0.2	< 0.5	< 0.5	< 1	
Benzo[k]fluoranthene	< 0.2	< 0.2	< 0.5	< 0.5	< 1	
Benzo[a]pyrene	< 0.2	< 0.2	< 0.5	< 0.5	< 1	
Benzo[e]pyrene	< 0.2	< 0.2	< 0.5	< 0.5	< 1	
Indeno[1,2,3-c,d] pyrene	< 0.2	< 0.2	< 0.5	< 0.5	< 1	
Dibenzo[a,h]anthracene		< 0.2	< 0.5	< 0.5	< 1	
Benzo[g,h,i]perylene	< 0.2	< 0.2	< 0.5	< 0.5	< 1	
Sum of 15 PAH	< 1	< 5	< 10	< 20	< 50	

Unit: mg/kg

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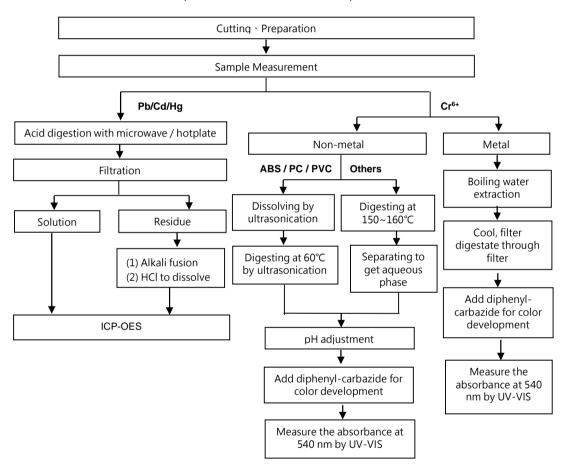
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Analytical flow chart of Heavy Metal

These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr^{6+} test method excluded)



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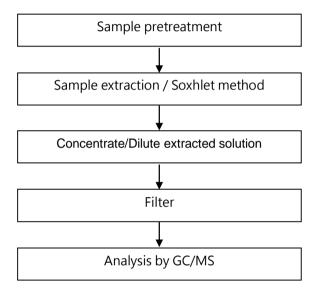


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PBB/PBDE analytical FLOW CHART



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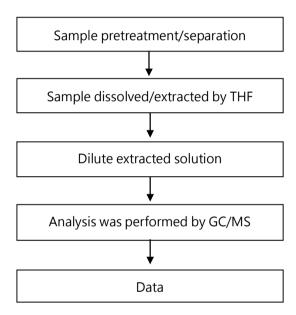
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Analytical flow chart of phthalate content

【Test method: IEC 62321-8】



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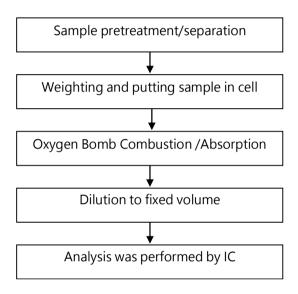


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Analytical flow chart of Halogen



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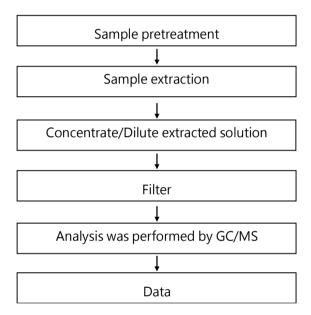


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Analytical flow chart - HBCDD



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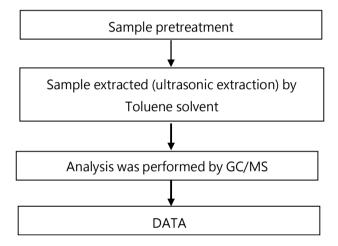


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PAHs (PolyAromaticHydrocarbons) analytical flow chart



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* The tested sample / part is marked by an arrow if it's shown on the photo. *

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** End of Report **

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