

Chemical Laboratory - Kao., SGS Taiwan Ltd.

Test Report

No. : KA/2018/10180

Date : 2018/01/09

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GRAND PACIFIC PETROCHEMICAL CORP.
NO. 4, HSING KUNG RD., TA-SHE INDUSTRIAL DISTRICT, KAOHSIUNG, 81567 TAIWAN R.O.C.

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

Sample Description	: ABS
Style/Item No.	: D-150
Sample Receiving Date	: 2018/01/03
Testing Period	: 2018/01/03 TO 2018/01/09
Sample Submitted By	: GRAND PACIFIC PETROCHEMICAL CORP.

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Test Requested	: 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).
Test Method	: Please refer to following pages.
Test Result(s)	: Please refer to following pages.
Conclusion	: 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 and amending Directive (EU) 2015/863.



Ray Chang Ph.D. Manager - Techn
Signed for and on behalf of
SGS Taiwan Limited

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Test Result(s)

PART NAME No.1 : WHITE ABS PELLETT

Test Item(s)	Unit	Method	MDL	Result	Limit
				No.1	
Cadmium (Cd)	mg/kg	With reference to IEC 62321-5: 2013 and performed by ICP-AES.	2	n.d.	100
Lead (Pb)	mg/kg	With reference to IEC 62321-5: 2013 and performed by ICP-AES.	2	n.d.	1000
Mercury (Hg)	mg/kg	With reference to IEC 62321-4: 2013 and performed by ICP-AES.	2	n.d.	1000
Hexavalent Chromium Cr(VI)	mg/kg	With reference to IEC 62321-7-2:2017 and performed by UV-VIS.	8	n.d.	1000
Sum of PBBs			-	n.d.	1000
Monobromobiphenyl	mg/kg	With reference to IEC 62321-6: 2015 and performed by GC/MS.	5	n.d.	-
Dibromobiphenyl			5	n.d.	-
Tribromobiphenyl			5	n.d.	-
Tetrabromobiphenyl			5	n.d.	-
Pentabromobiphenyl			5	n.d.	-
Hexabromobiphenyl			5	n.d.	-
Heptabromobiphenyl			5	n.d.	-
Octabromobiphenyl			5	n.d.	-
Nonabromobiphenyl			5	n.d.	-
Decabromobiphenyl			5	n.d.	-
Sum of PBDEs			-	n.d.	1000
Monobromodiphenyl ether	mg/kg	With reference to IEC 62321-6: 2015 and performed by GC/MS.	5	n.d.	-
Dibromodiphenyl ether			5	n.d.	-
Tribromodiphenyl ether			5	n.d.	-
Tetrabromodiphenyl ether			5	n.d.	-
Pentabromodiphenyl ether			5	n.d.	-
Hexabromodiphenyl ether			5	n.d.	-
Heptabromodiphenyl ether			5	n.d.	-
Octabromodiphenyl ether			5	n.d.	-
Nonabromodiphenyl ether			5	n.d.	-
Decabromodiphenyl ether			5	n.d.	-

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Test Item(s)	Unit	Method	MDL	Result	Limit
				No.1	
DIBP (Di-isobutyl phthalate) (CAS No.: 84-69-5)	mg/kg	With reference to IEC 62321-8:2017. Analysis was performed by GC/MS.	50	n.d.	1000
DBP (Dibutyl phthalate) (CAS No.: 84-74-2)			50	n.d.	1000
BBP (Butyl Benzyl phthalate) (CAS No.: 85-68-7)			50	n.d.	1000
DEHP (Di- (2-ethylhexyl) phthalate) (CAS No.: 117-81-7)			50	n.d.	1000

Note :

1. mg/kg = ppm ; 0.1wt% = 1000ppm
2. n.d. = Not Detected
3. MDL = Method Detection Limit
4. " - " = Not Regulated

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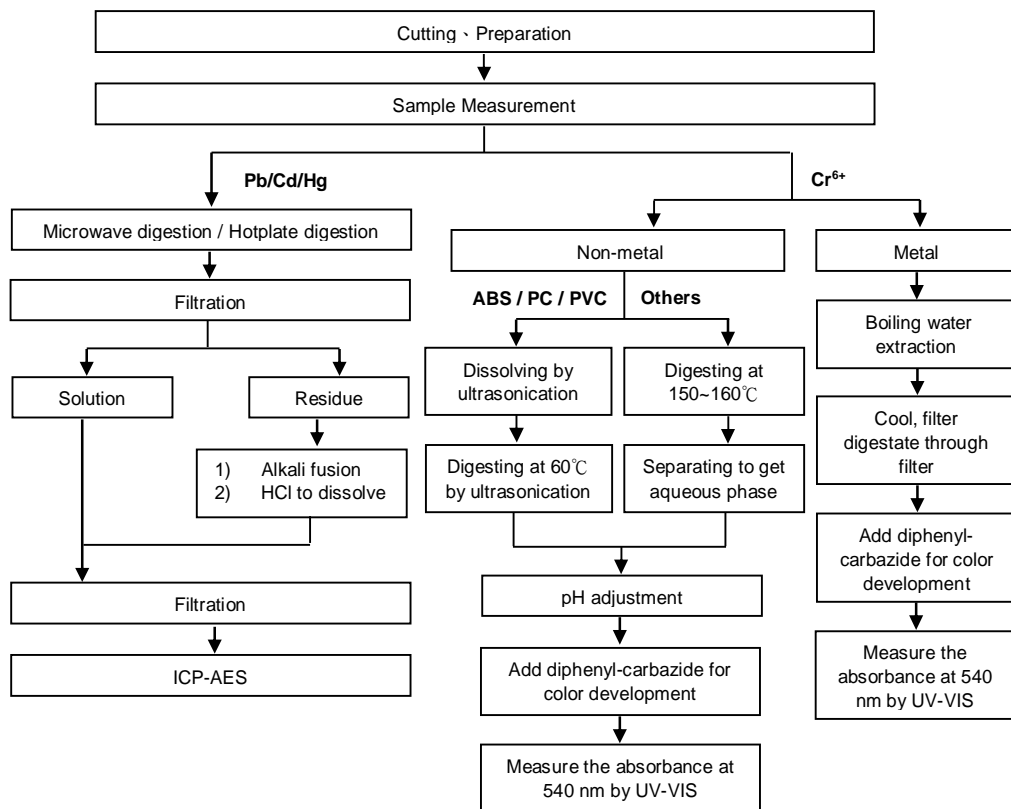
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Analytical flow chart of Heavy Metal

These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr⁶⁺ test method excluded)

- Technician : Jony Liu
- Supervisor: Ray Chang



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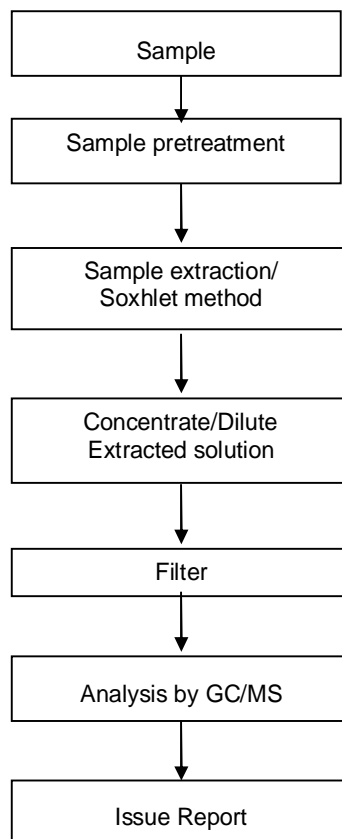
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NO. 4, HSING KUNG RD., TA-SHE INDUSTRIAL DISTRICT, KAOHSIUNG, 81567 TAIWAN R.O.C.

PBB/PBDE analytical FLOW CHART

- 1) Name of the person who made measurement: Dorothy Chen
- 2) Name of the person in charge of measurement: Ray Chang



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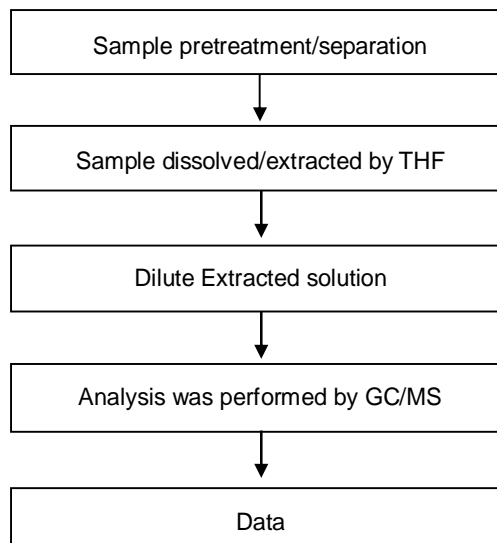
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Analytical flow chart of phthalate content

- Name of the person who made measurement: Dorothy Chen
- Name of the person in charge of measurement: Ray Chang

【Test method: IEC 62321-8】



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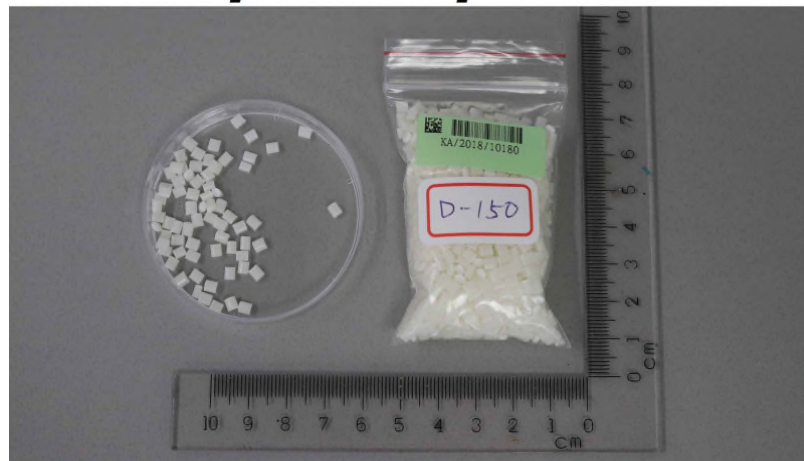
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* The tested sample / part is marked by an arrow if it's shown on the photo. *

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** End of Report **