

Test Report

No. HKGEC2000174802

Date: 17 Mar 2020

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MITSUBISHI CHEMICAL POLYMER NANTONG COMPANY,LIMITED

NO.6 GUANGZHOU ROAD, NANTONG ECONOMIC & TECHNOLOGICAL DEVELOPMENT AREA, JIANGSU PROVINCE
226009
CHINA

The following sample(s) was/were submitted and identified on behalf of the clients as : ACRYPET VH(001)

SGS Job No. : 4566257 - HK

Colour : 001

Item No Given by Client : VH

Order No. : TEIKI2020 - MCPN

Date of Sample Received : 05 Mar 2020

Testing Period : 05 Mar 2020 - 17 Mar 2020

Test Requested : Selected test(s) as requested by client.

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

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

Conclusion : Based on the performed tests on submitted sample(s), the results of Cadmium, Lead, Mercury, Hexavalent chromium, Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs) and Phthalates such as Bis(2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP) and Diisobutyl phthalate (DIBP) comply with the limits as set by RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.

Signed for and on behalf of
SGS Hong Kong Limited.



Chan Chun Kit, Dickson
Operation Manager

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Test Results :

Test Part Description :

Specimen No.	SGS Sample ID	Description
1	HKG20-001748.002	Transparent plastic pellet

Remarks :

- (1) 1 mg/kg = 1 ppm = 0.0001%
- (2) MDL = Method Detection Limit
- (3) ND = Not Detected (< MDL)
- (4) "-" = Not Regulated

RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU

Test Method : With reference to IEC 62321-4:2013+A1:2017, IEC62321-5:2013, IEC62321-7-2:2017, IEC62321-6:2015 and IEC62321-8:2017, analyzed by ICP-OES, UV-Vis and GC-MS. (Decision Rule: please refer to appendix 1: Category 1)

Test Item(s)	Limit	Unit	MDL	002
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1,000	mg/kg	2	ND
Mercury (Hg)	1,000	mg/kg	2	ND
Hexavalent Chromium (CrVI)	1,000	mg/kg	8	ND
Sum of PBBs	1,000	mg/kg	-	ND
Monobromobiphenyl	-	mg/kg	5	ND
Dibromobiphenyl	-	mg/kg	5	ND
Tribromobiphenyl	-	mg/kg	5	ND
Tetrabromobiphenyl	-	mg/kg	5	ND
Pentabromobiphenyl	-	mg/kg	5	ND
Hexabromobiphenyl	-	mg/kg	5	ND
Heptabromobiphenyl	-	mg/kg	5	ND
Octabromobiphenyl	-	mg/kg	5	ND
Nonabromobiphenyl	-	mg/kg	5	ND
Decabromobiphenyl	-	mg/kg	5	ND
Sum of PBDEs	1,000	mg/kg	-	ND
Monobromodiphenyl ether	-	mg/kg	5	ND
Dibromodiphenyl ether	-	mg/kg	5	ND
Tribromodiphenyl ether	-	mg/kg	5	ND
Tetrabromodiphenyl ether	-	mg/kg	5	ND
Pentabromodiphenyl ether	-	mg/kg	5	ND

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<u>Test Item(s)</u>	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>002</u>
Hexabromodiphenyl ether	-	mg/kg	5	ND
Heptabromodiphenyl ether	-	mg/kg	5	ND
Octabromodiphenyl ether	-	mg/kg	5	ND
Nonabromodiphenyl ether	-	mg/kg	5	ND
Decabromodiphenyl ether	-	mg/kg	5	ND
Dibutyl Phthalate (DBP)	1,000	mg/kg	50	ND
Benzylbutyl Phthalate (BBP)	1,000	mg/kg	50	ND
Bis-(2-ethylhexyl) Phthalate (DEHP)	1,000	mg/kg	50	ND
Diisobutyl Phthalate (DIBP)	1,000	mg/kg	50	ND

Notes :

(1) The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863.

IEC 62321 series is equivalent to EN 62321 series

http://www.cenelec.eu/dyn/www/f?p=104:30:1742232870351101:::FSP_ORG_ID,FSP_LANG_ID:1258637,25

Halogen

Test Method : With reference to BS EN 14582:2016, analysis was performed by IC.

<u>Test Item(s)</u>	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>002</u>
Fluorine (F)	-	mg/kg	50	ND
Chlorine (Cl)	-	mg/kg	50	ND
Bromine (Br)	-	mg/kg	50	ND
Iodine (I)	-	mg/kg	50	ND

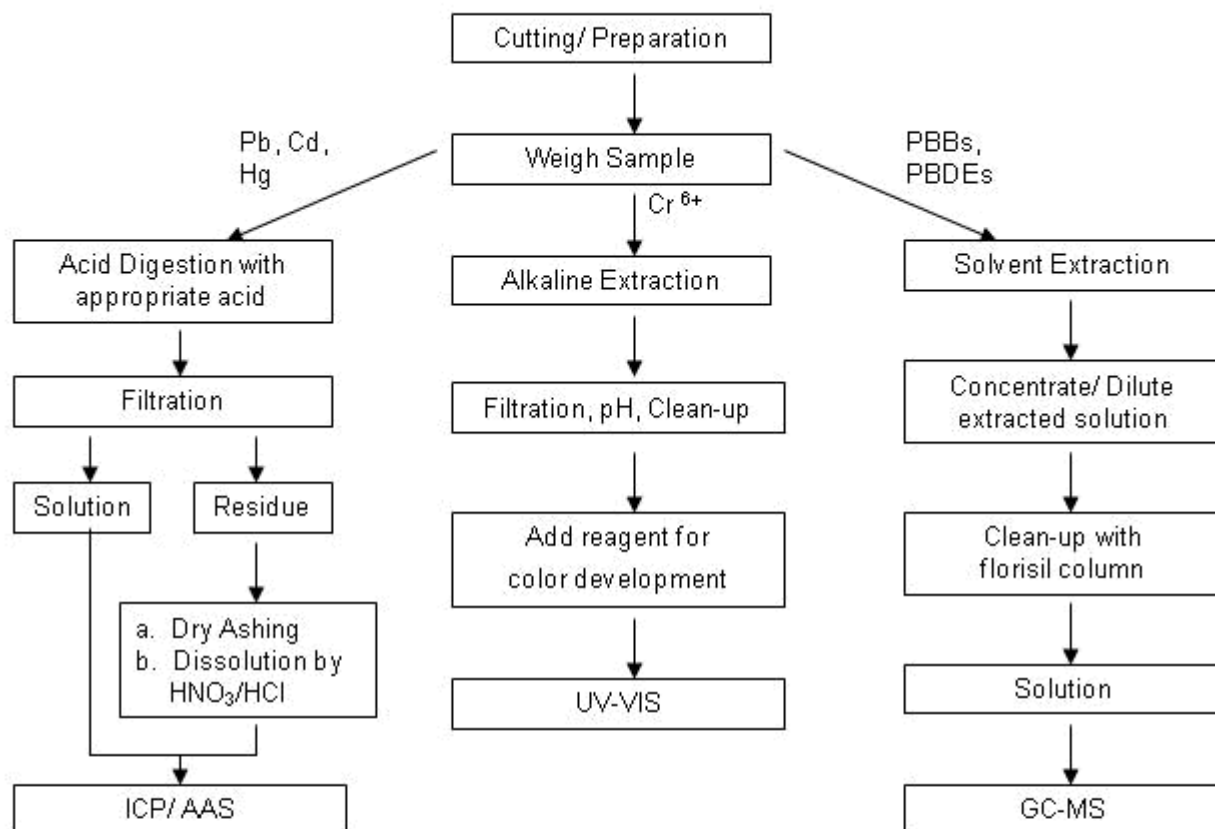
Notes :

1. The uncertainty range of the result is $\pm 20\%$

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Flowchart:



- Note : 1) Boiling water test method was also performed for the analysis of Cr (VI) in metal sample.
 2) The polymeric samples were dissolved totally by pre-conditioning method according to above flow chat for Cd, Pb and Hg contents analysis.

Operator: Chiu Kan Yuen/ Tang Koon Pang (Acid digestion)
Chiu Kan Yuen (Dry Ashing)
Nick Liu (Hexavalent Chromium)
Kent Wan (PBBs and PBDEs)

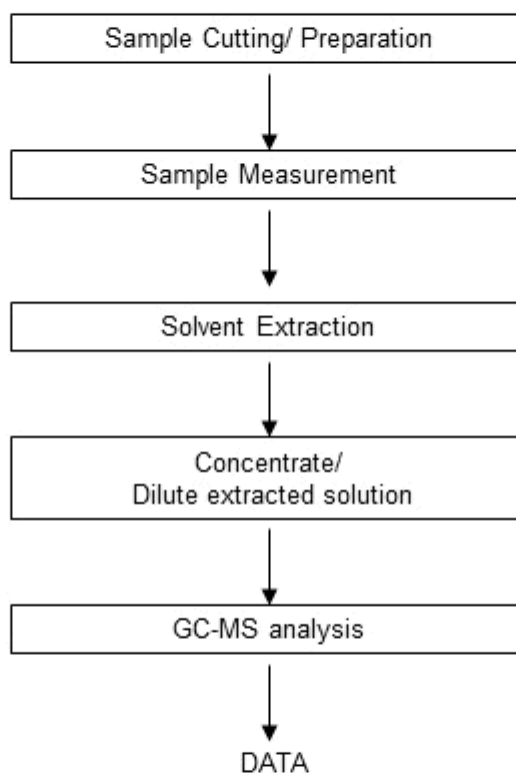
Section Chief : Chan Chun Kit, Dickson

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Flowchart for Phthalates measurement

Method: IEC 62321-8:2017



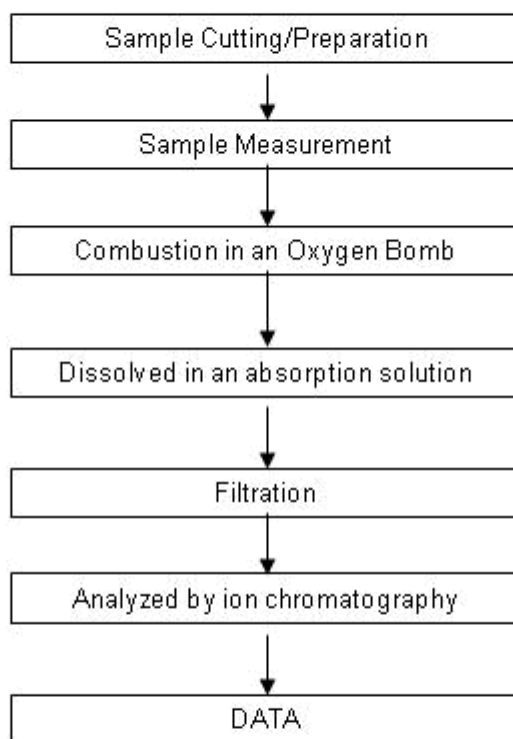
Tested by : Lumpy Lee
 Checked by : Edmund Kwan

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Flowchart for Halogen Free Test

Method: BS EN14582:2016



Operator: Tang Ying Sam
 Supervisor: Chan Chun Kit (Dickson)

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Appendix 1

Category	Decision Rule Statement
1	The decision rule for conformity reporting is based on the non-binary statement with guard band (is equal to the expanded measurement uncertainty with a 95% coverage probability, $w = U_{95}$) in ILAC-G8:09/2019 Clause 4.2.3.
2	The decision rule for conformity reporting is based on BS EN 1811:2011+A1:2015: Reference test method for release of nickel from all post assemblies which are inserted into pierced parts of the human body and articles intended to come into direct and prolonged contact with the skin in Section 9.2 interpretation of results.
3	The decision rule for conformity reporting is based on the general consideration of simple acceptance as stated in ISO/IEC Guide 98-3: "Uncertainty of measurement - Part 3: Guide to the expression of uncertainty in measurement (GUM 1995)", and more specifically for analytical measurements to the EURACHEM/CITAC Guide 2012 "Quantifying Uncertainty in Analytical Measurement".
4	The decision rule for conformity reporting is according to the IEC 62321-7-1 Edition 1.0 2015-09 Section 7: Table 1-(comparison to standard and interpretation of result)
5	The decision rule for conformity reporting is according to the IEC 62321-3-1 Edition 1.0 2013-06 Annex A.3 interpretation of result.
6	The decision rule for conformity reporting is according to the GB/T 26125-2011 Annex A to H
7	The decision rule for conformity reporting is according to the requested specification or standard (ASTM F963-17 section 4.3.5)
8	The decision rule for conformity reporting is according to the requested specification or standard (AS/NZS ISO 8124 Part 3 section 4.2)
Remark	If the decision rule is not feasible to be used and the uncertainty of the result is able to be provided, the uncertainty range of the result will be shown in the report. Otherwise, only result will be shown in the report.

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Sample photo:



SGS authenticate the photo on original report only

*** End of Report ***

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