

## Test Report

No. : KE/2016/C0920

Date : 2016/12/15

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NEW PRISMATIC ENTERPRISE CO., LTD.  
NO. 4, ALLEY 27, LANE 195, YUNG FENG RD., TU-CHENG DISTRICT, NEW TAIPEI CITY 236, TAIWAN

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

Sample Description : THERMOCHROMIC MC PIGMENT 31C S. BLUE-BPA FREE  
Style/Item No. : TM-PDF-31-3132  
Color : S. BLUE  
Sample Receiving Date : 2016/12/09  
Testing Period : 2016/12/09 TO 2016/12/15  
Sample Submitted By : NEW PRISMATIC ENTERPRISE CO., LTD.

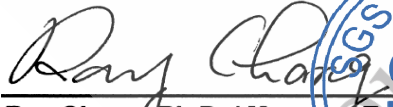
Test Requested :

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.

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

Conclusion :

Based on the performed tests on submitted samples, 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-Test  
Signed for and on behalf of  
SGS Taiwan Limited  
Chemical Laboratory-Kaohsiung



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## Test Result(s)

PART NAME No.1 : BLUE POWDER

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: 2008 and performed by UV-VIS.	2	n.d.	1000	
<b>Sum of PBBs</b>	mg/kg	With reference to IEC 62321-6: 2015 and performed by GC/MS.	-	n.d.	1000	
Monobromobiphenyl	mg/kg		5	n.d.	-	
Dibromobiphenyl	mg/kg		5	n.d.	-	
Tribromobiphenyl	mg/kg		5	n.d.	-	
Tetrabromobiphenyl	mg/kg		5	n.d.	-	
Pentabromobiphenyl	mg/kg		5	n.d.	-	
Hexabromobiphenyl	mg/kg		5	n.d.	-	
Heptabromobiphenyl	mg/kg		5	n.d.	-	
Octabromobiphenyl	mg/kg		5	n.d.	-	
Nonabromobiphenyl	mg/kg		5	n.d.	-	
Decabromobiphenyl	mg/kg		5	n.d.	-	
<b>Sum of PBDEs</b>	mg/kg		With reference to IEC 62321-6: 2015 and performed by GC/MS.	-	n.d.	1000
Monobromodiphenyl ether	mg/kg			5	n.d.	-
Dibromodiphenyl ether	mg/kg	5		n.d.	-	
Tribromodiphenyl ether	mg/kg	5		n.d.	-	
Tetrabromodiphenyl ether	mg/kg	5		n.d.	-	
Pentabromodiphenyl ether	mg/kg	5		n.d.	-	
Hexabromodiphenyl ether	mg/kg	5		n.d.	-	
Heptabromodiphenyl ether	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.	-		

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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 (111/321/CD). Analysis was performed by GC/MS.	50	n.d.	1000
DBP (Dibutyl phthalate) (CAS No.: 84-74-2)	mg/kg		50	n.d.	1000
BBP (Butyl Benzyl phthalate) (CAS No.: 85-68-7)	mg/kg		50	n.d.	1000
DEHP (Di- (2-ethylhexyl) phthalate) (CAS No.: 117-81-7)	mg/kg		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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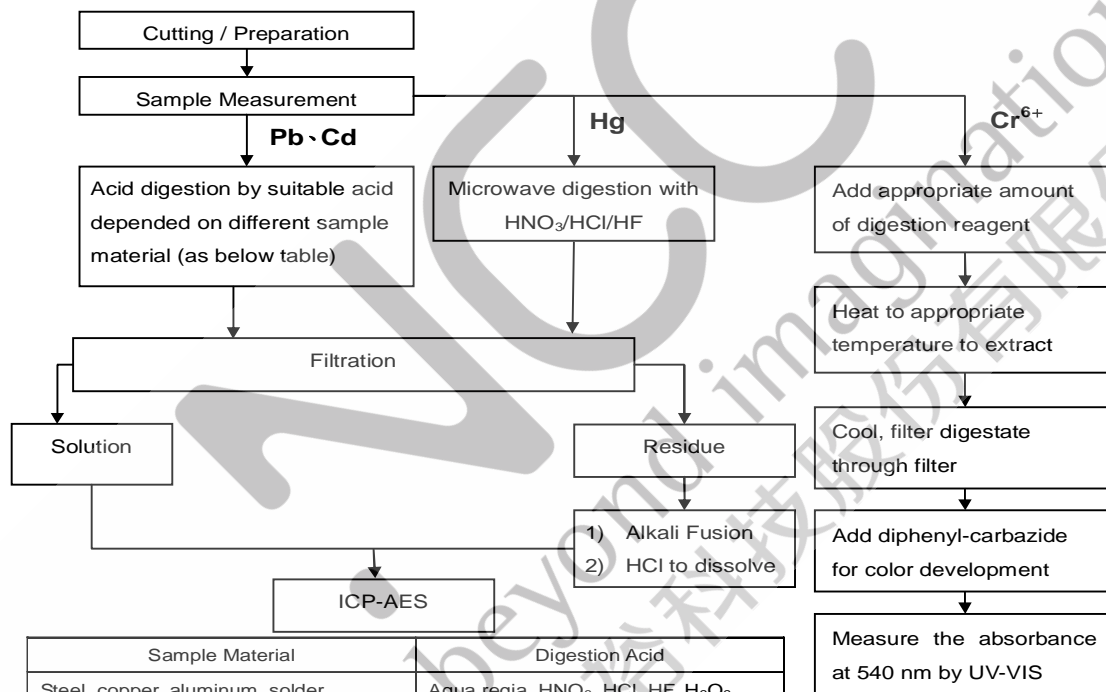
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NO. 4, ALLEY 27, LANE 195, YUNG FENG RD., TU-CHENG DISTRICT, NEW TAIPEI CITY 236, TAIWAN

- 1) These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr<sup>6+</sup> test method excluded)
- 2) Name of the person who made measurement: Jony Liu
- 3) Name of the person in charge of measurement: Ray Chang



Sample Material	Digestion Acid
Steel, copper, aluminum, solder	Aqua regia, HNO <sub>3</sub> , HCl, HF, H <sub>2</sub> O <sub>2</sub>
Glass	HNO <sub>3</sub> /HF
Gold, platinum, palladium, ceramic	Aqua regia
Silver	HNO <sub>3</sub>
Plastic	H <sub>2</sub> SO <sub>4</sub> , H <sub>2</sub> O <sub>2</sub> , HNO <sub>3</sub> , HCl
Others	Any acid to total digestion

**Note\*\* :** (1) For non-metallic material, add alkaline digestion reagent and heat to 90–95 °C.  
 (2) For metallic material, add pure water and heat to boiling.

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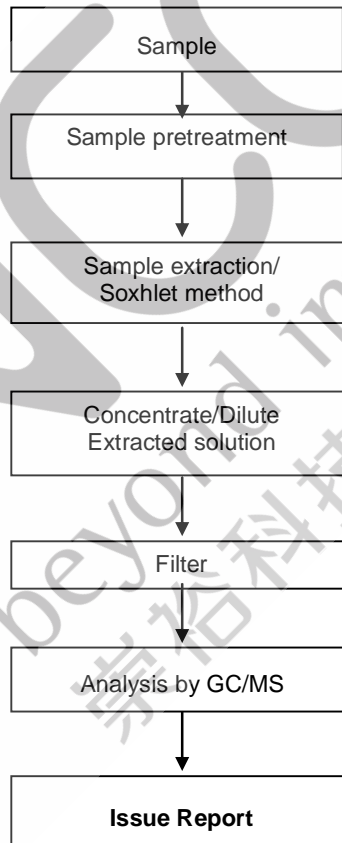
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### PBB/PBDE analytical FLOW CHART

- 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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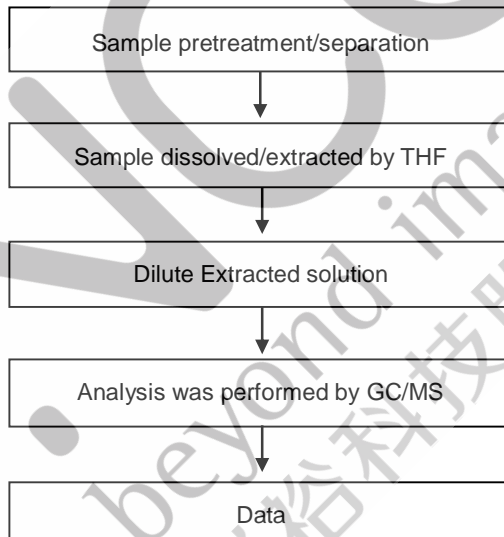
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### Analytical flow chart of phthalate content

- 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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\* 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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