

Test Report

No. : KE/2015/C0989

Date : 2015/12/14

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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 :

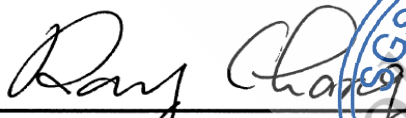
Sample Description : THERMOCHROMIC MC PIGMENT 31C RED-BPA FREE
Style/Item No. : TM-PDE 31-3111
Color : RED
Sample Receiving Date : 2015/12/09
Testing Period : 2015/12/09 TO 2015/12/14
Sample Submitted By : NEW PRISMATIC ENTERPRISE CO., LTD.

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).


Ray Chang, Ph.D. / Manager-Test
Signed for and on behalf of
SGS Taiwan Limited
Chemical Laboratory-Kaohsiung



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

Test Result(s)

PART NAME No.1 : RED PIGMENT POWDER

Test Item(s)	Unit	Method	MDL	Result	
				No.1	
Cadmium (Cd)	mg/kg	With reference to IEC 62321-5: 2013 and performed by ICP-AES.	2	n.d.	
Lead (Pb)	mg/kg	With reference to IEC 62321-5: 2013 and performed by ICP-AES.	2	n.d.	
Mercury (Hg)	mg/kg	With reference to IEC 62321-4: 2013 and performed by ICP-AES.	2	n.d.	
Hexavalent Chromium Cr(VI)	mg/kg	With reference to IEC 62321: 2008 and performed by UV-VIS.	2	n.d.	
Sum of PBBs	mg/kg	With reference to IEC 62321-6: 2015 and performed by GC/MS.	-	n.d.	
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.	
Sum of PBDEs	mg/kg		With reference to IEC 62321-6: 2015 and performed by GC/MS.	-	n.d.
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
				No.1
DBP (Dibutyl phthalate) (CAS No.: 84-74-2)	mg/kg	With reference to IEC 62321-8 (111/321/CD). Analysis was performed by GC/MS.	50	n.d.
BBP (Butyl Benzyl phthalate) (CAS No.: 85-68-7)	mg/kg	With reference to IEC 62321-8 (111/321/CD). Analysis was performed by GC/MS.	50	n.d.
DEHP (Di- (2-ethylhexyl) phthalate) (CAS No.: 117-81-7)	mg/kg	With reference to IEC 62321-8 (111/321/CD). Analysis was performed by GC/MS.	50	n.d.
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.

Note :

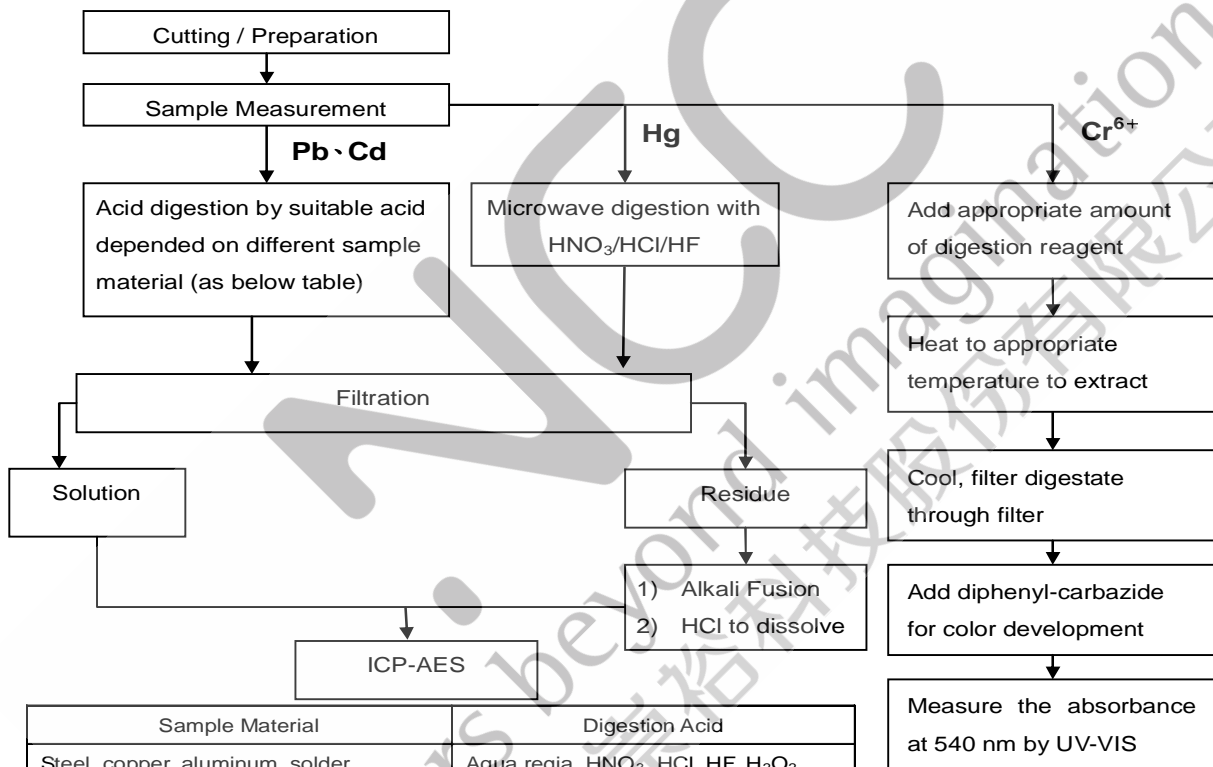
1. mg/kg = ppm ; 0.1wt% = 1000ppm
2. n.d. = Not Detected
3. MDL = Method Detection Limit
4. " - " = Not Regulated

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- 1) These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr6+ 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 ₃ , HCl, HF, H ₂ O ₂
Glass	HNO ₃ /HF
Gold, platinum, palladium, ceramic	Aqua regia
Silver	HNO ₃
Plastic	H ₂ SO ₄ , H ₂ O ₂ , HNO ₃ , 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.

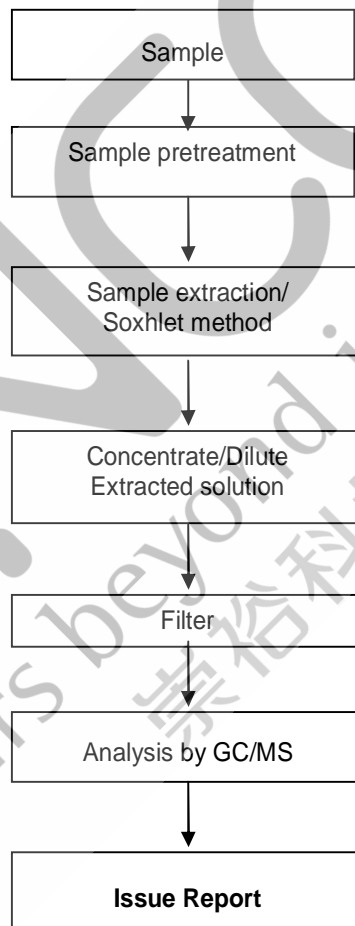
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NO. 4, ALLEY 27, LANE 195, YUNG FENG RD., TU-CHENG DISTRICT, NEW TAIPEI CITY 236, TAIWAN

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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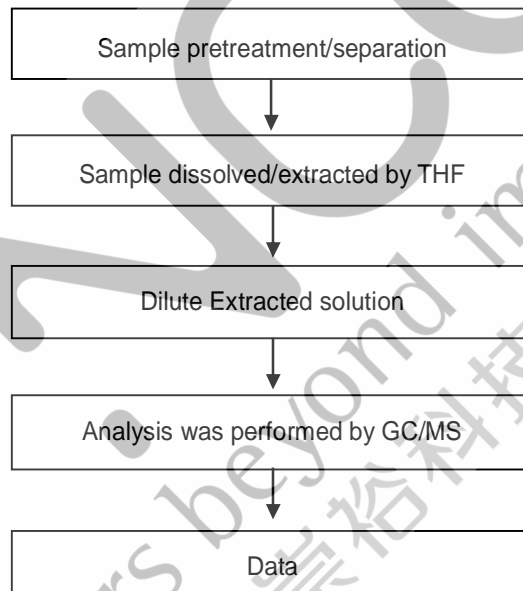
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Analytical flow chart of phthalate content

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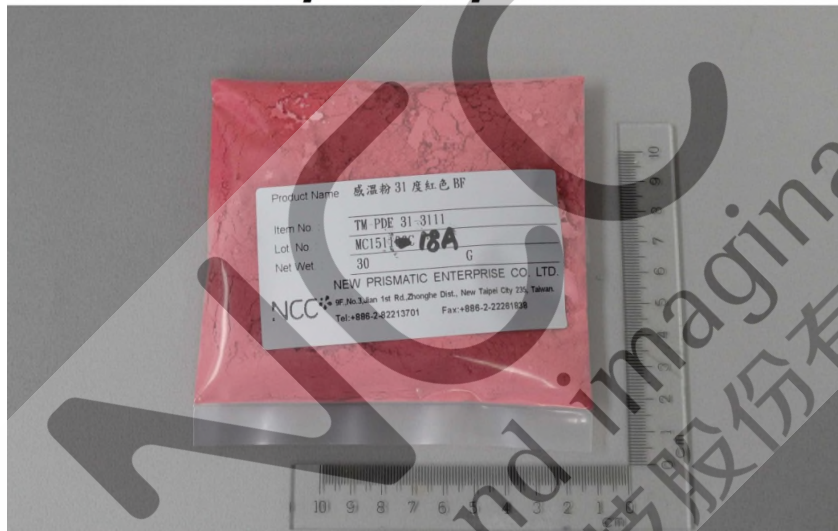
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* The tested sample / part is marked by an arrow if it's shown on the photo. *

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** End of Report **

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