

Test Report

No. CANEC1800889501

Date: 17 Jan 2018

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PZH TIANLUN CHEMICAL CO.,LTD

ANNING INDUSTRIAL ZONE,YANBIAN COUNTY,PANZHUIHUA CITY,SICHUAN PROVINCE,CHINA

The following sample(s) was/were submitted and identified on behalf of the clients as : Titanium Dioxide

SGS Job No. : CQ18708693EC - CQ

Model No. : TLA-100

Date of Sample Received : 11 Jan 2018

Testing Period : 11 Jan 2018 - 17 Jan 2018

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 Lead, Mercury, Cadmium, 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.

When tested as specified, Migration of certain elements of the submitted sample(s) do not exceed the limit of the European Standard EN 71-3:2013+A2:2017.

Signed for and on behalf of
SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch

Bella Wu

Bella Wu
Approved Signatory



Test Results :

Test Part Description :

Specimen No.	SGS Sample ID	Description
SN1	CAN18-008895.001	White powder

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 , IEC 62321-6:2015 and IEC62321-8:2017, analyzed by ICP-OES , UV-Vis and GC-MS .

<u>Test Item(s)</u>	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>001</u>
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1,000	mg/kg	2	7
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>001</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)	1000	mg/kg	50	ND
Butyl benzyl phthalate (BBP)	1000	mg/kg	50	ND
Bis (2-ethylhexyl) phthalate (DEHP)	1000	mg/kg	50	ND
Diisobutyl Phthalates (DIBP)	1000	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

EN 71-3:2013+A2:2017-Migration of Certain Elements (Category III: Scrapped-off toy material)

Test Method : With reference to EN 71-3:2013+A2:2017. Analysis was performed by ICP-OES. Chromium (VI) was analyzed by IC-UV/LC-ICP-MS/UV-VIS.

<u>Test Item(s)</u>	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>001</u>
Soluble Aluminum(Al)	70,000	mg/kg	50	ND
Soluble Antimony (Sb)	560	mg/kg	10	ND
Soluble Arsenic (As)	47	mg/kg	10	ND
Soluble Barium (Ba)	18,750	mg/kg	50	ND
Soluble Boron(B)	15,000	mg/kg	50	ND
Soluble Cadmium (Cd)	17	mg/kg	5	ND
Soluble Chromium (III) (Cr (III))	460	mg/kg	5	ND
Soluble Chromium (VI) (Cr (VI))	0.2	mg/kg	0.18	ND
Soluble Cobalt(Co)	130	mg/kg	10	ND
Soluble Copper(Cu)	7,700	mg/kg	50	ND
Soluble Lead (Pb)	160	mg/kg	10	ND
Soluble Manganese(Mn)	15,000	mg/kg	50	ND
Soluble Mercury (Hg)	94	mg/kg	10	ND
Soluble Nickel(Ni)	930	mg/kg	10	ND
Soluble Organic Tin	12	mg/kg	-	ND
Soluble Selenium (Se)	460	mg/kg	10	ND
Soluble Strontium(Sr)	56,000	mg/kg	50	ND



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<u>Test Item(s)</u>	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>001</u>
Soluble Tin(Sn)	180,000	mg/kg	4.9	ND
Soluble Zinc (Zn)	46,000	mg/kg	50	ND

Notes :

- 1.Soluble Chromium (III)= Soluble Total Chromium- Soluble Chromium (VI)
2. Confirmation test of soluble organic tin is not required in case of soluble tin, after conversion, does not exceed the soluble organic tin requirement as specified in EN 71-3:2013+A2:2017.

Elementary Analysis

Test Method : SGS In-house method (GZTC CHEM-TOP-004-01, with reference to US EPA Method 3052:1996), analysis was performed by ICP-OES.

<u>Test Item(s)</u>	<u>Unit</u>	<u>MDL</u>	<u>001</u>
Arsenic (As)	mg/kg	10	ND
Selenium (Se)	mg/kg	10	ND
Antimony (Sb)	mg/kg	10	ND
Barium (Ba)	mg/kg	10	ND
Cadmium (Cd)	mg/kg	2	ND
Lead (Pb)	mg/kg	2	7
Mercury (Hg)	mg/kg	2	ND
Chromium (Cr)	mg/kg	2	10

Element(s)

Test Method : SGS In-house method (GZTC CHEM-TOP-004-01, with reference to US EPA Method 3052:1996), analysis was performed by ICP-OES.

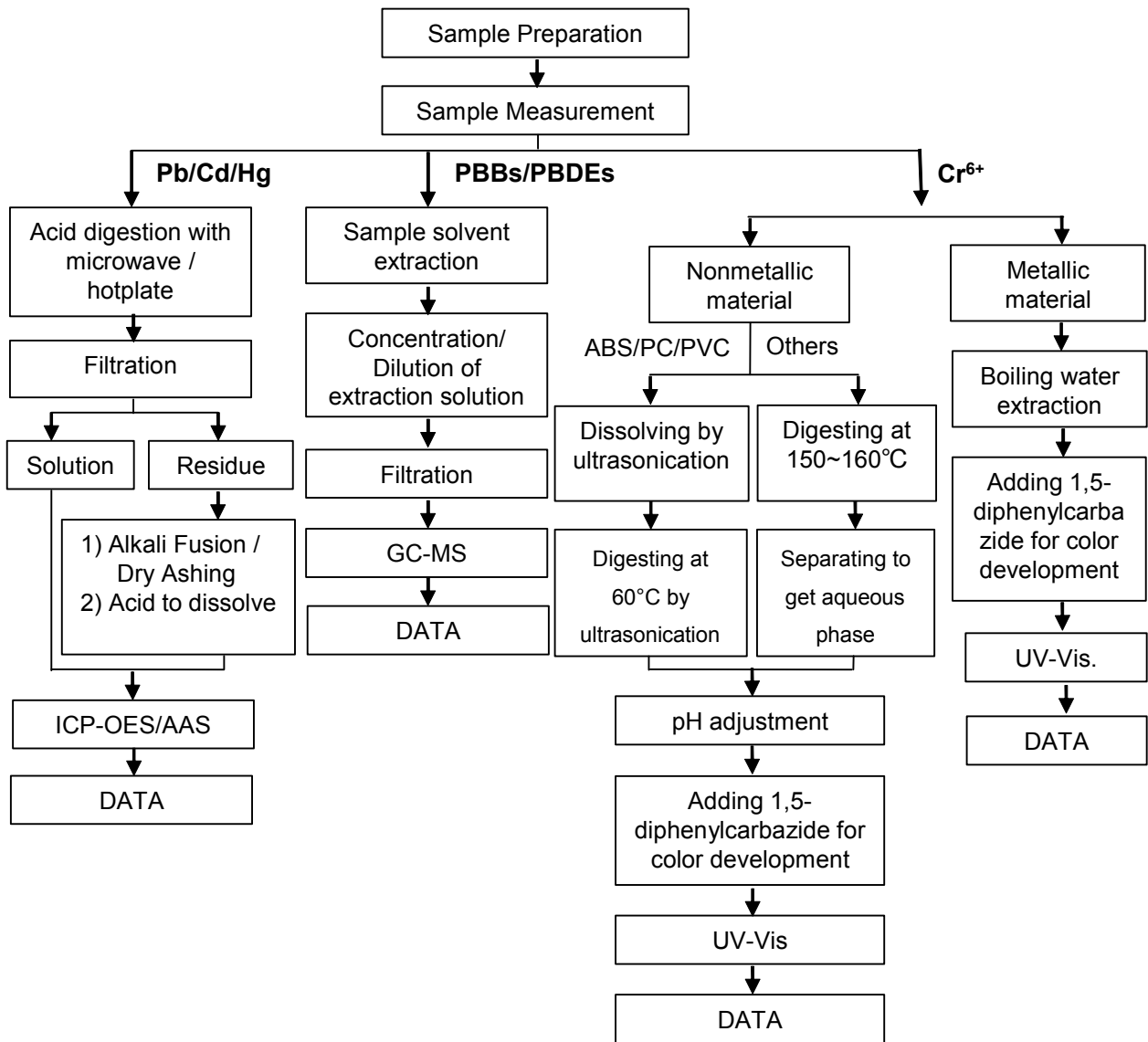
<u>Test Item(s)</u>	<u>Unit</u>	<u>MDL</u>	<u>001</u>
Arsenic (As)	mg/kg	10	ND
Nickel (Ni)	mg/kg	5	ND



ATTACHMENTS

Pb/Cd/Hg/Cr⁶⁺/PBBs/PBDEs Testing Flow Chart

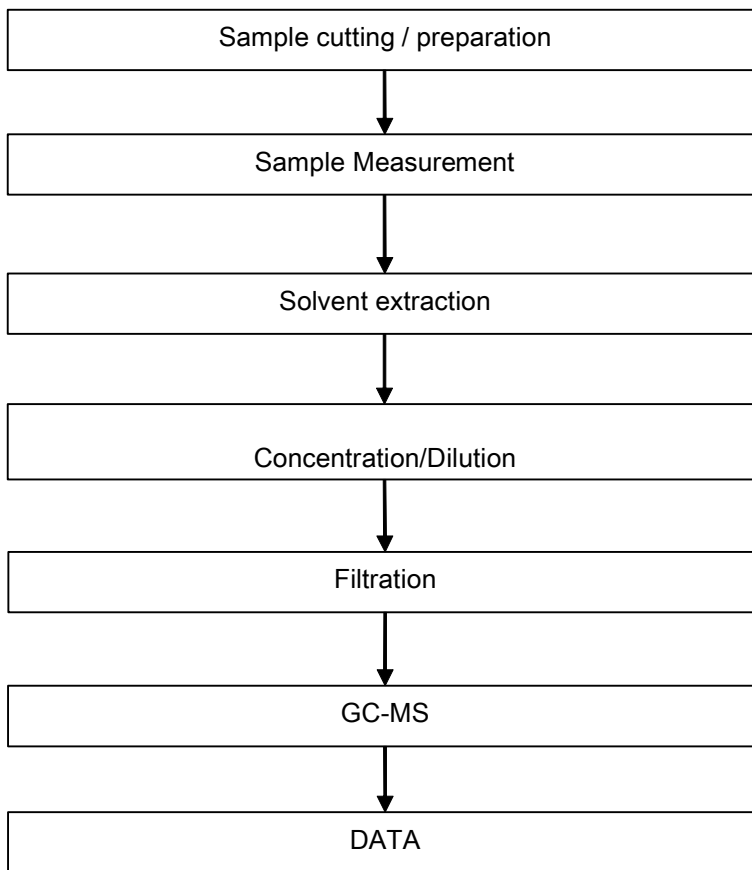
- 1) Name of the person who made testing: Edith Zhang / Sunny Hu
- 2) Name of the person in charge of testing: Bella Wang / Qiong Liu
- 3) These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr⁶⁺ and PBBs/PBDEs test method excluded).



ATTACHMENTS

Phthalates Testing Flow Chart

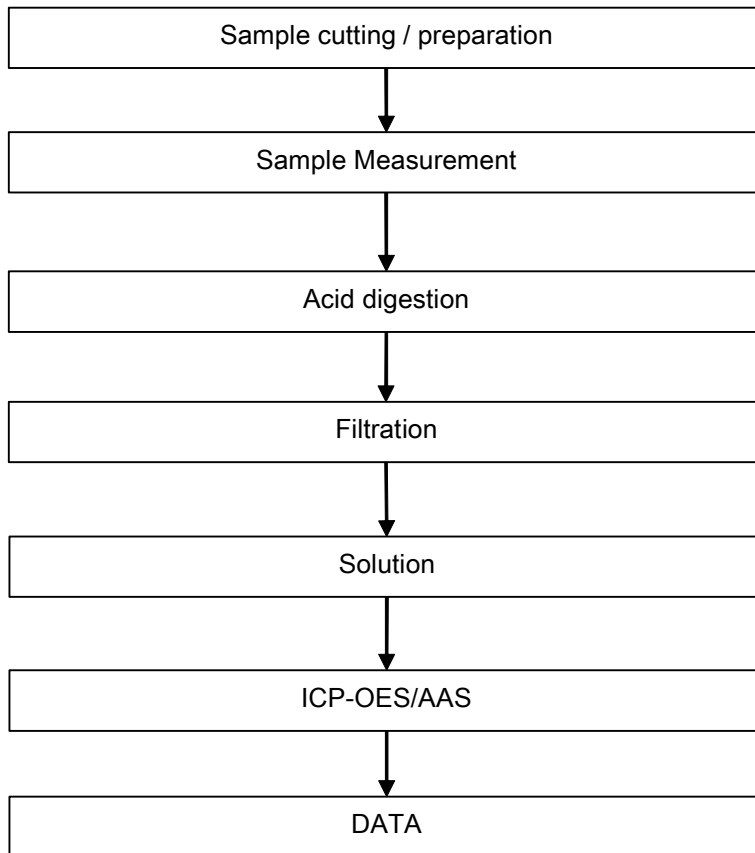
- 1) Name of the person who made testing: Sunny Hu
- 2) Name of the person in charge of testing: Qiong Liu



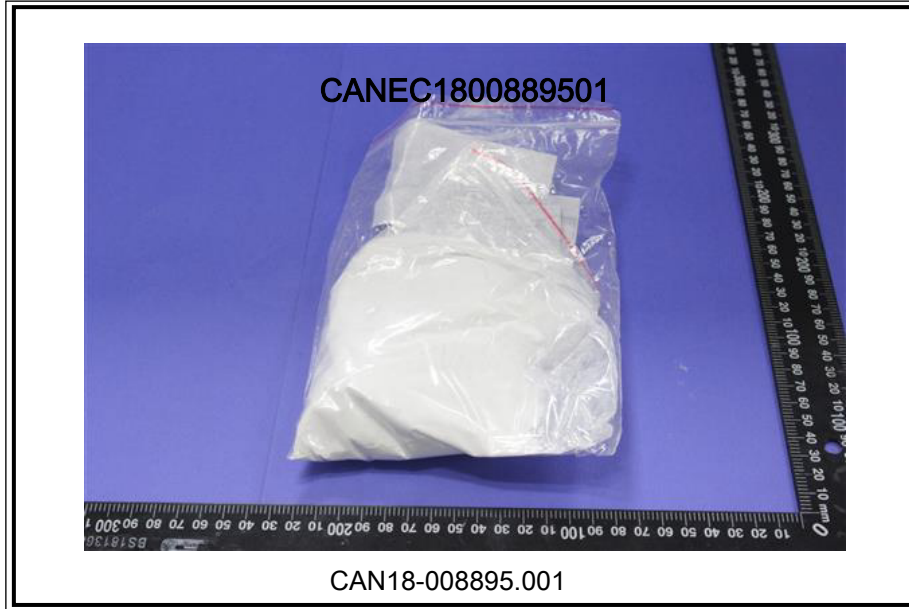
ATTACHMENTS

Elementary Testing Flow Chart

- 1) Name of the person who made testing: Edith Zhang
- 2) Name of the person in charge of testing: Bella Wang



Sample photo:



SGS authenticate the photo on original report only

*** End of Report ***