

## Test Report

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YUNCHENG CHEMICAL INDUSTRIAL CO., LTD.  
NO.19, KUANGWEN RD., SHANHUA , TAINAN 741, TAIWAN (R.O.C.)

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

Sample Description : COLLOIDAL CALCIUM CARBONATE  
Style/Item No. : PAI IAN HUA(CC.CCR.DD)/LIGHT CALCIUM CARBONATE  
Color : WHITE  
Sample Receiving Date : 2018/02/23  
Testing Period : 2018/02/23 TO 2018/03/02  
Sample Submitted By : YUNCHENG CHEMICAL INDUSTRIAL CO., LTD.

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

Based upon the performed tests by submitted samples, the test results of Cadmium, Lead, Mercury, Hexavalent Chromium Cr(VI), PBBs and PBDEs comply with the limits of RoHS Directive 2002/95/EC and its subsequent amendments.

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



Chemical Laboratory - Kao., SGS Taiwan Ltd.

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NO.19, KUANGWEN RD., SHANHUA , TAINAN 741, TAIWAN (R.O.C.)

## Test Result(s)

PART NAME NO.1 : WHITE COLLOIDAL CALCIUM CARBONATE POWDER

PASS

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	
<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	
<b>Polynuclear Aromatic Hydrocarbons (PAHs)</b>					
Acenaphthene (CAS No.: 83-32-9)	mg/kg	With reference to AfPS GS 2014:01 PAK method. Analysis was performed by GC/MS.	0.2	n.d.	-
Acenaphthylene (CAS No.: 208-96-8)	mg/kg		0.2	n.d.	-
Anthracene (CAS No.: 120-12-7)	mg/kg		0.2	n.d.	-
Benzo[a]anthracene (CAS No.: 56-55-3)	mg/kg		0.2	n.d.	-
Benzo[a]pyrene (CAS No.: 50-32-8)	mg/kg		0.2	n.d.	-
Benzo[b]fluoranthene (CAS No.: 205-99-2)	mg/kg		0.2	n.d.	-
Benzo[g,h,i]perylene (CAS No.: 191-24-2)	mg/kg		0.2	n.d.	-
Benzo[k]fluoranthene (CAS No.: 207-08-9)	mg/kg		0.2	n.d.	-
Chrysene (CAS No.: 218-01-9)	mg/kg		0.2	n.d.	-
Dibenzo[a,h]anthracene (CAS No.: 53-70-3)	mg/kg		0.2	n.d.	-
Fluoranthene (CAS No.: 206-44-0)	mg/kg		0.2	n.d.	-
Fluorene (CAS No.: 86-73-7)	mg/kg		0.2	n.d.	-
Indeno[1,2,3-c,d] pyrene (CAS No.: 193-39-5)	mg/kg		0.2	n.d.	-
Naphthalene (CAS No.: 91-20-3)	mg/kg		0.2	n.d.	-
Phenanthrene (CAS No.: 85-01-8)	mg/kg		0.2	n.d.	-
Pyrene (CAS No.: 129-00-0)	mg/kg		0.2	n.d.	-
Benzo[j]fluoranthene (CAS No.: 205-82-3)	mg/kg		0.2	n.d.	-
Benzo[e]pyrene (CAS No.: 192-97-2)	mg/kg		0.2	n.d.	-
Sum of 18 PAHs	mg/kg	-	-	n.d.	-
<b>Asbestos</b>					
Actinolite (CAS No.: 77536-66-4)	%	With reference to NIOSH 9000 & NIOSH 9002 method. Analysis was performed by Stereo Microscope (SM) and Dispersion Staining Polarized Light Microscope (DS-PLM).	-	Negative	-
Amosite (CAS No.: 12172-73-5)	%		-	Negative	-
Anthophyllite (CAS No.: 77536-67-5)	%		-	Negative	-
Chrysotile (CAS No.: 12001-29-5)	%		-	Negative	-
Crocidolite (CAS No.: 12001-28-4)	%		-	Negative	-
Tremolite (CAS No.: 77536-68-6)	%		-	Negative	-

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- Note :
1. mg/kg = ppm ; 0.1wt% = 1000ppm
  2. n.d. = Not Detected
  3. MDL = Method Detection Limit
  4. " - " = Not Regulated
  5. Asbestos:Negative = Undetectable / Positive = Detectable
  6. Testing range of asbestos qualitative analysis is from less than 0.1% to 100%. The judgment criterion: asbestos
  7. The Asbestos test was subcontracted to other SGS Laboratory.

## AfPS (German commission for Product Safety): GS PAHs requirements

Parameter	Category 1 (Material indented to be put in the mouth or toys with intended skin contact (longer than 30 s).	Category 2 Materials not falling under category 1 with foreseeable contact to skin for longer than 30 seconds (long-term skin or frequent contact).		Category 3 Materials not falling under category 1 or 2 with foreseeable contact to skin for less than 30 seconds (short-term skin contact).	
		Toy under 2009/48/EC	Other products under ProdSG	Toy under 2009/48/EC	Other products under ProdSG
Naphthalene	< 1	< 2		< 10	
Acenaphthylene	< 1 Sum	< 5 Sum	< 10 Sum	< 20 Sum	< 50 Sum
Acenaphthene					
Fluorene					
Phenanthrene					
Anthracene					
Fluoranthene					
Pyrene					
Benzo[a]anthracene	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Chrysene	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo[b]fluoranthene	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo[i]fluoranthene	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo[k]fluoranthene	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo[a]pyrene	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo[e]pyrene	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Indeno[1,2,3-c,d] pyrene	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Dibenzo[a,h]anthracene	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo[g,h,i]perylene	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Sum of 18 PAH	< 1	< 5	< 10	< 20	< 50

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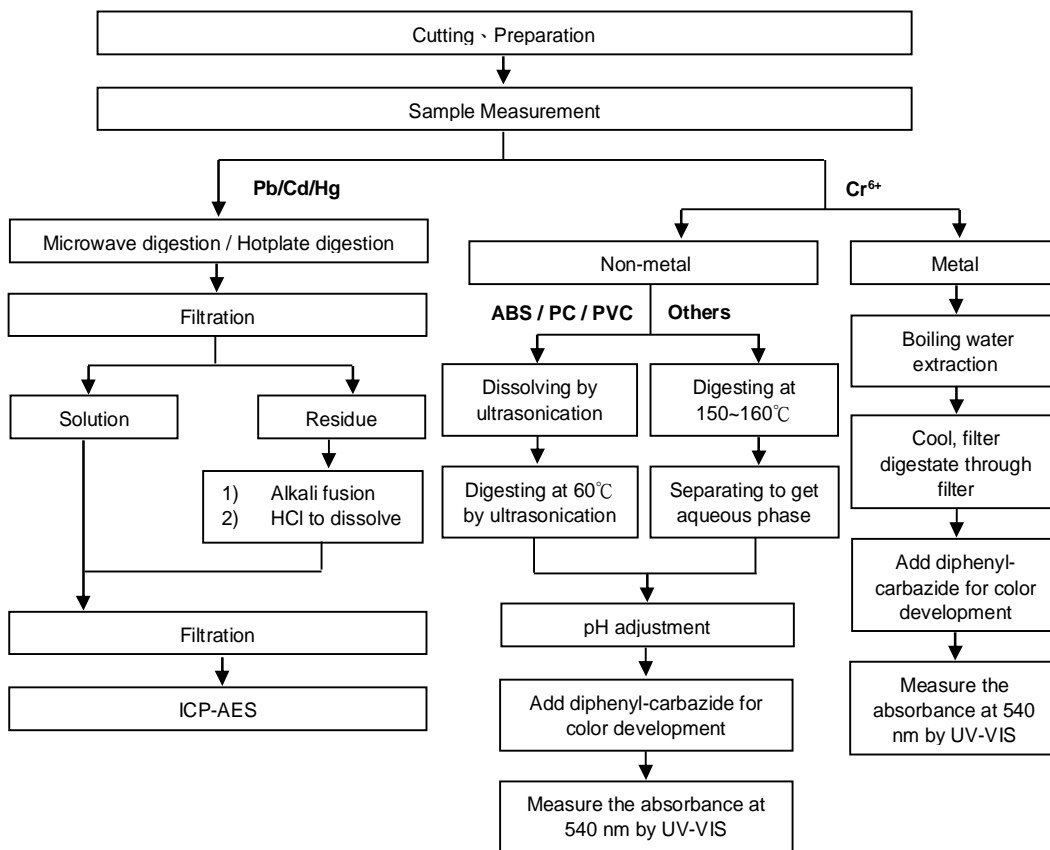
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YUNCHENG CHEMICAL INDUSTRIAL CO., LTD.  
NO.19, KUANGWEN RD., SHANHUA , TAINAN 741, TAIWAN (R.O.C.)

### Analytical flow chart of Heavy Metal

These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr<sup>6+</sup> test method excluded)

- Technician : Jony Liu
- Supervisor: Ray Chang



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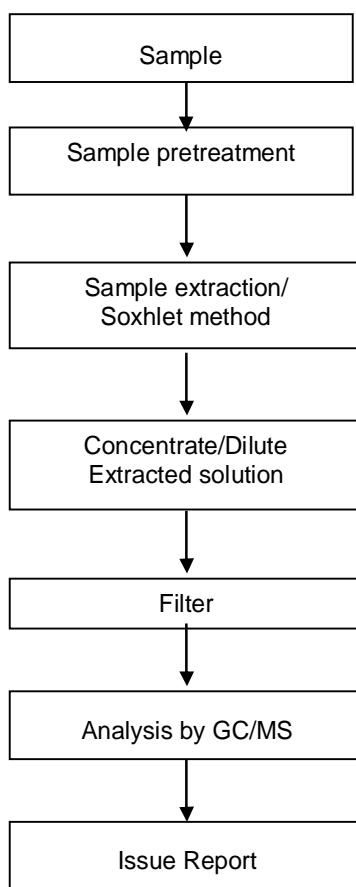
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NO.19, KUANGWEN RD., SHANHUA , TAINAN 741, TAIWAN (R.O.C.)

### 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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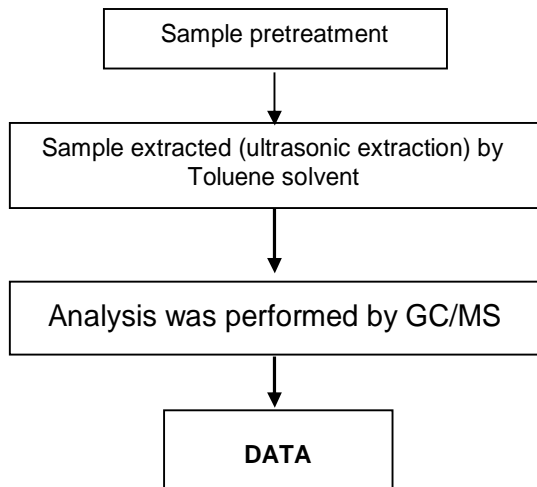
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NO.19, KUANGWEN RD., SHANHUA , TAINAN 741, TAIWAN (R.O.C.)

### PAHs (PolyAromaticHydrocarbons) 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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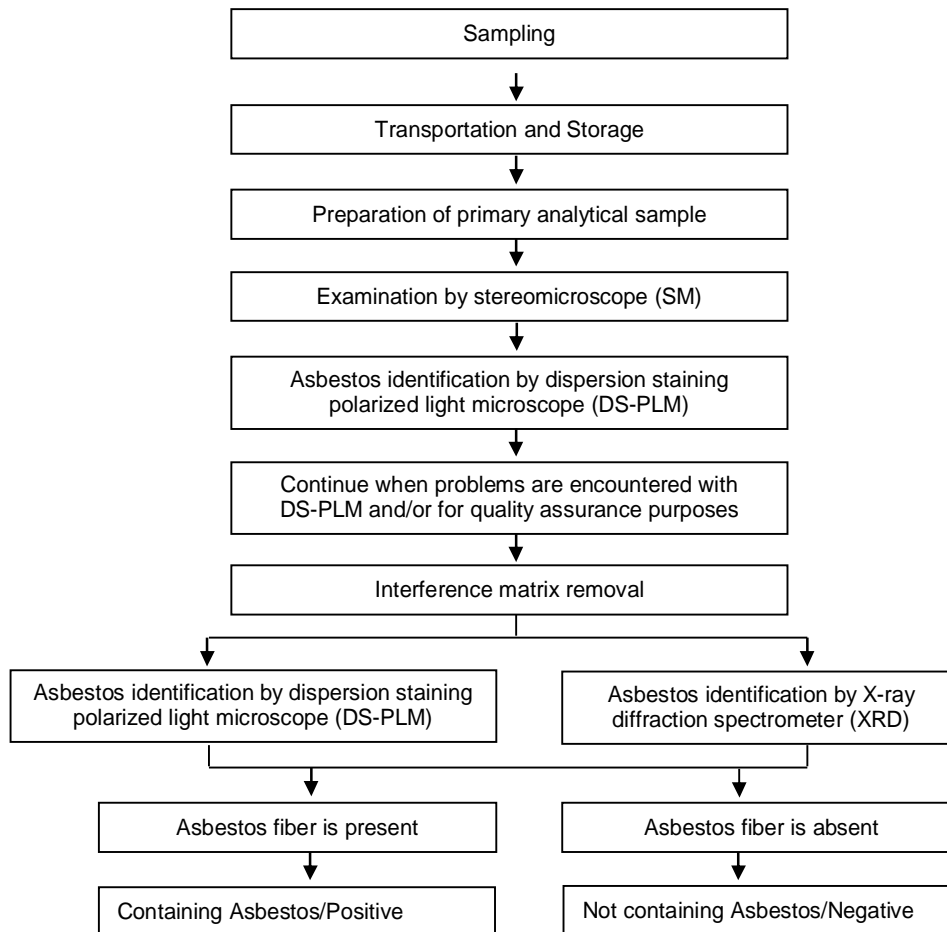
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YUNCHENG CHEMICAL INDUSTRIAL CO., LTD.  
NO.19, KUANGWEN RD., SHANHUA , TAINAN 741, TAIWAN (R.O.C.)

### Analysis flow chart for determination of Asbestos

- Name of the person who made measurement: Victor Kao
- Name of the person in charge of measurement: Wendy Wei

#### 【Reference method: EPA 600/R-93/116】



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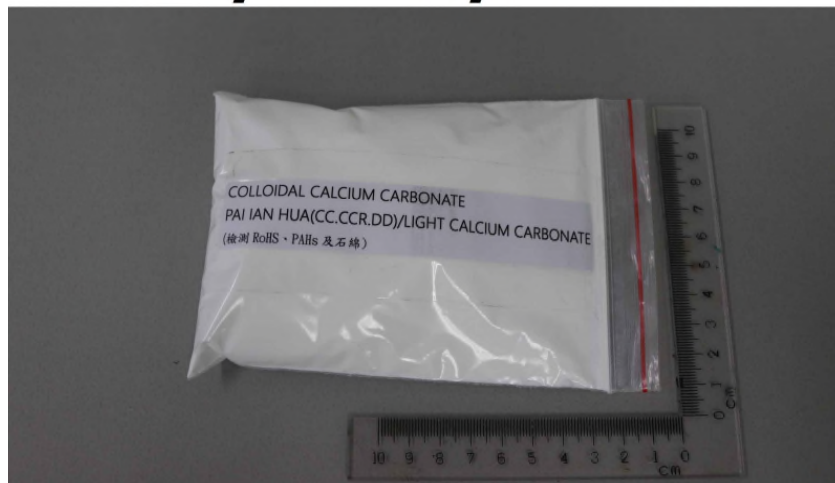
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\* The tested sample / part is marked by an arrow if it's shown on the photo. \*

\*\* End of Report \*\*