

## Test Report

No. : CE/2020/72842

Date : 2020/07/21

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AVX HONG KONG LTD. (TAIWAN BRANCH)

7F, NO. 56, LANE 258, RUIGUANG ROAD, NEIHU DISTRICT, TAIPEI CITY 11491, TAIWAN (R.O.C.)

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

Sample Submitted By : AVX HONG KONG LTD. (TAIWAN BRANCH)  
 Sample Description : GRAPHITE STD.  
 Style/Item No : TANTALUM DIVISION  
 Sample Receiving Date : 2020/07/15  
 Testing Period : 2020/07/15 to 2020/07/21

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(s).

Test Result(s) : Please refer to following pages.

*Troy Chang*  
 Troy Chang / Manager - Tech  
 Signed for and behalf of  
 SGS TAIWAN LTD.  
 Chemical Laboratory - Taipei



PIN CODE: 010F7840

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## Test Result(s)

PART NAME No.1 : BLACK PASTE

Test Item(s)	Unit	Method	MDL	Result No.1
Cadmium (Cd)	mg/kg	With reference to IEC 62321-5 (2013) and performed by ICP-OES.	2	n.d.
Lead (Pb)	mg/kg	With reference to IEC 62321-5 (2013) and performed by ICP-OES.	2	n.d.
Mercury (Hg)	mg/kg	With reference to IEC 62321-4:2013+AMD1:2017 and performed by ICP-OES.	2	n.d.
Hexavalent Chromium Cr(VI)	mg/kg	With reference to IEC 62321-7-2 (2017) and performed by UV-VIS.	8	n.d.
<b>Sum of PBBs</b>	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.
<b>Sum of PBDEs</b>	mg/kg		-	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
BBP (Butyl Benzyl phthalate) (CAS No.: 85-68-7)	mg/kg	With reference to IEC 62321-8 (2017). Analysis was performed by GC/MS.	50	n.d.
DBP (Dibutyl phthalate) (CAS No.: 84-74-2)	mg/kg		50	n.d.
DEHP (Di- (2-ethylhexyl) phthalate) (CAS No.: 117-81-7)	mg/kg		50	n.d.
DIBP (Di-isobutyl phthalate) (CAS No.: 84-69-5)	mg/kg		50	n.d.

## Note :

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

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### 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)



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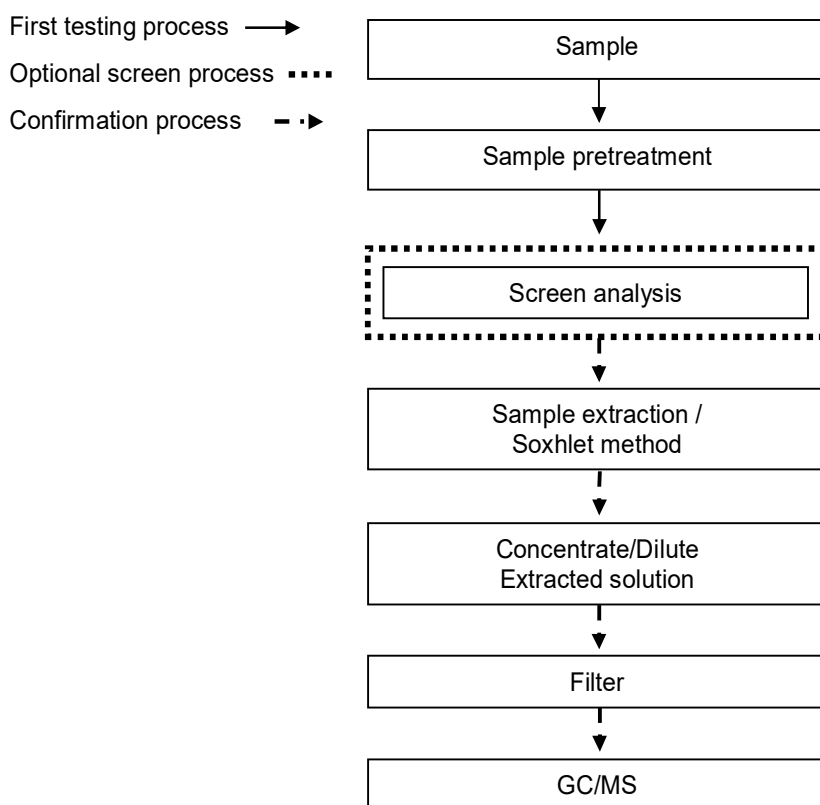
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## Analytical flow chart – PBB / PBDE



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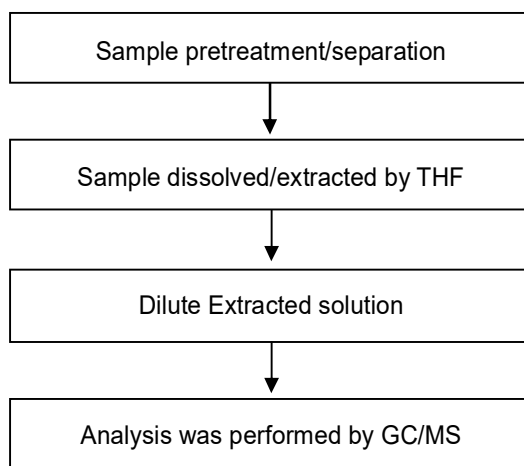
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## Analytical flow chart - Phthalate

【Test method: IEC 62321-8】



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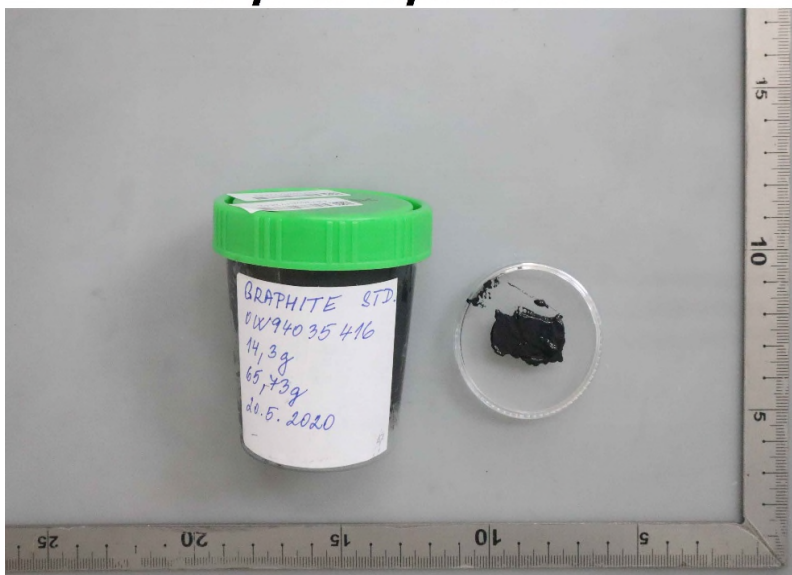
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\* The tested sample / part is marked by an arrow if it's shown on the photo. \*

### CE/2020/72842



\*\* End of Report \*\*

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