

Test Report

No. : CE/2020/72808

Date : 2020/07/21

Page : 1 of 7

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 : MANGANESE NITRATE
 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: 1923D34C

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Test Report

No. : CE/2020/72808

Date : 2020/07/21

Page : 2 of 7

AVX HONG KONG LTD. (TAIWAN BRANCH)

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Test Result(s)

PART NAME No.1 : TRANSPARENT CRYSTAL

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.
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		-	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 Report

No. : CE/2020/72808

Date : 2020/07/21

Page : 3 of 7

AVX HONG KONG LTD. (TAIWAN BRANCH)

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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

Test Report

No. : CE/2020/72808

Date : 2020/07/21

Page : 4 of 7

AVX HONG KONG LTD. (TAIWAN BRANCH)

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Analytical flow chart of Heavy Metal

These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr⁶⁺ test method excluded)



Test Report

No. : CE/2020/72808

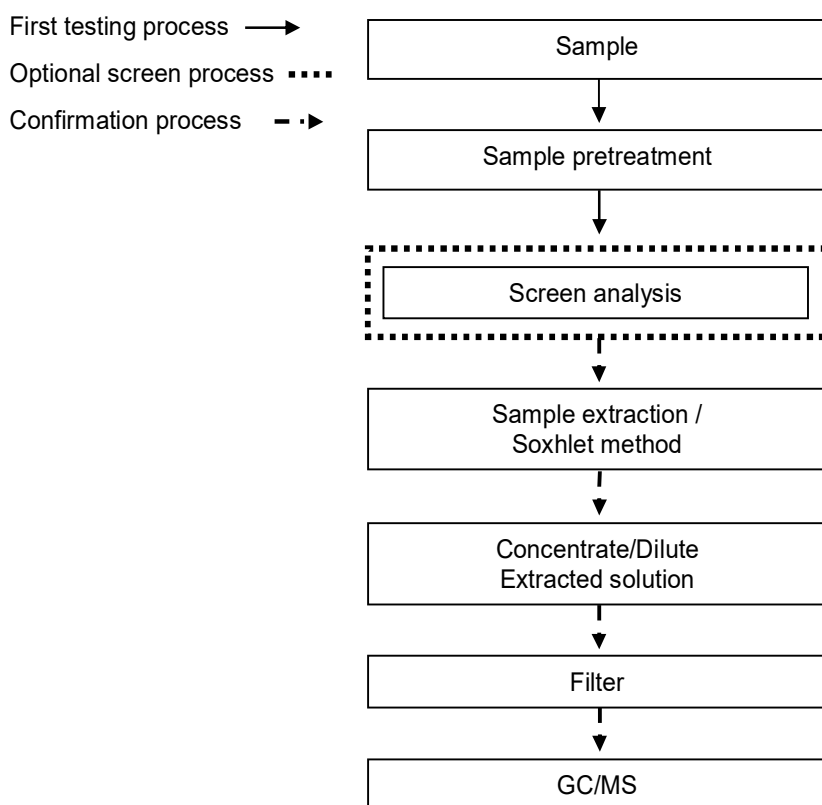
Date : 2020/07/21

Page : 5 of 7

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Analytical flow chart – PBB / PBDE



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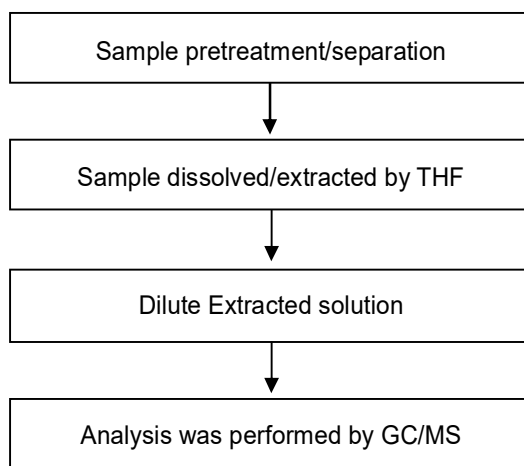
Page : 6 of 7

AVX HONG KONG LTD. (TAIWAN BRANCH)

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Analytical flow chart - Phthalate

【Test method: IEC 62321-8】



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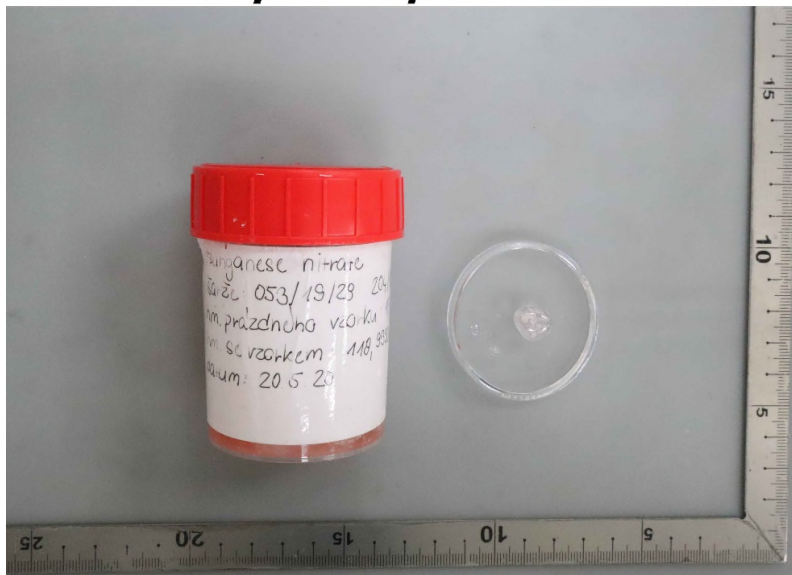
Page : 7 of 7

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

CE/2020/72808



** End of Report **

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