

Test Report

No: 10518879(11) A4

Date: 21-Jul-2021

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cab Produkttechnik GmbH & Co. KG
Wilhelm-Schickard-Str.14, 76131 Karlsruhe, Germany

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

Sample Name : W91

Sample Receiving Date : 07-Jul-2021
Testing Period : 07-Jul-2021 to 21-Jul-2021

Test Requested : Selected test(s) as requested by client.

Test Method : Please refer to next page(s)

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

Conclusion : Based on the performed tests on submitted sample(s), the results of Cadmium, Lead, Mercury, 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.

Signed for and on behalf of
SGS Testing & Control Services Singapore Pte Ltd



Y.C. Tham
Technical Manager, Multi-Lab



Test Location: 30 Boon Lay Way, #02-02, Singapore 609957

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Test Result(s):

Sample Description : Black Film

| Test Item(s): | Unit | Method | Results | MDL | RoHS Limit |
|------------------------------|-------|---|-------------|-----|------------|
| Cadmium(Cd) | mg/kg | With reference to IEC62321-5 :2013. Analysis was performed by ICP/OES | n.d. | 2 | 100 |
| Lead (Pb) | mg/kg | With reference to IEC62321-5 :2013. Analysis was performed by ICP/OES | n.d. | 2 | 1000 |
| Mercury (Hg) | mg/kg | With reference to IEC62321-4 :2013+A1:2017. Analysis was performed by ICP/OES | n.d. | 2 | 1000 |
| Hexavalent Chromium (Cr(VI)) | mg/kg | With reference to IEC62321-7-2 :2017. Analysis was performed by UV/Vis Spectrometry | n.d. | 8 | 1000 |
| Sum of PBBs | mg/kg | With reference to IEC62321-6 :2015. Analysis was performed by GC/MS | n.d. | - | 1000 |
| Monobromobiphenyl | mg/kg | | n.d. | 5 | - |
| Dibromobiphenyl | mg/kg | | n.d. | 5 | - |
| Tribromobiphenyl | mg/kg | | n.d. | 5 | - |
| Tetrabromobiphenyl | mg/kg | | n.d. | 5 | - |
| Hexabromobiphenyl | mg/kg | | n.d. | 5 | - |
| Pentabromobiphenyl | mg/kg | | n.d. | 5 | - |
| Heptabromobiphenyl | mg/kg | | n.d. | 5 | - |
| Octabromobiphenyl | mg/kg | | n.d. | 5 | - |
| Nonabromobiphenyl | mg/kg | | n.d. | 5 | - |
| Decabromobiphenyl | mg/kg | | n.d. | 5 | - |
| Sum of PBDEs | mg/kg | | n.d. | - | 1000 |
| Monobromodiphenyl ether | mg/kg | | n.d. | 5 | - |
| Dibromodiphenyl ether | mg/kg | | n.d. | 5 | - |
| Tribromodiphenyl ether | mg/kg | | n.d. | 5 | - |
| Tetrabromodiphenyl ether | mg/kg | | n.d. | 5 | - |
| Pentabromodiphenyl ether | mg/kg | | n.d. | 5 | - |
| Hexabromodiphenyl ether | mg/kg | | n.d. | 5 | - |
| Heptabromodiphenyl ether | mg/kg | | n.d. | 5 | - |
| Octabromodiphenyl ether | mg/kg | | n.d. | 5 | - |
| Nonabromodiphenyl ether | mg/kg | n.d. | 5 | - | |
| Decabromodiphenyl ether | mg/kg | n.d. | 5 | - | |

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Test Result(s):

Sample Description : Black Film

| Test Item(s): | Unit | Method | Results | MDL | Limit |
|------------------------------------|-------|--|---------|-----|-------|
| BBP (Benzyl butyl phthalate) | mg/kg | With reference to IEC 62321-8: 2017. Analysis was performed by GC/MS | n.d. | 50 | 1000 |
| DBP (Di-butyl phthalate) | mg/kg | With reference to IEC 62321-8: 2017. Analysis was performed by GC/MS | n.d. | 50 | 1000 |
| DEHP (Di-(2-ethylhexyl) phthalate) | mg/kg | With reference to IEC 62321-8: 2017. Analysis was performed by GC/MS | n.d. | 50 | 1000 |
| DIBP (Di-isobutyl Phthalate) | mg/kg | With reference to IEC 62321-8: 2017. Analysis was performed by GC/MS | n.d. | 50 | 1000 |

Note:

- (1) mg/kg = ppm ; 0.1wt% = 1000ppm
- (2) n.d.= Not Detected
- (3) MDL = Method Detection Limit
- (4) "-" = Not regulated
- (5) * : Exceeds limit
- (6) The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863.
- (7) IEC 62321 series is equivalent to EN 62321 series.

https://www.cenelec.eu/dyn/www/?p=104:30:1742232870351101:::FSP_ORG_ID:FSP_LANG_ID:1258637.25

Remarks: Sample received was totally dissolved by preconditioning method.
Lab Analyst(s): AQ, Joela and SJ

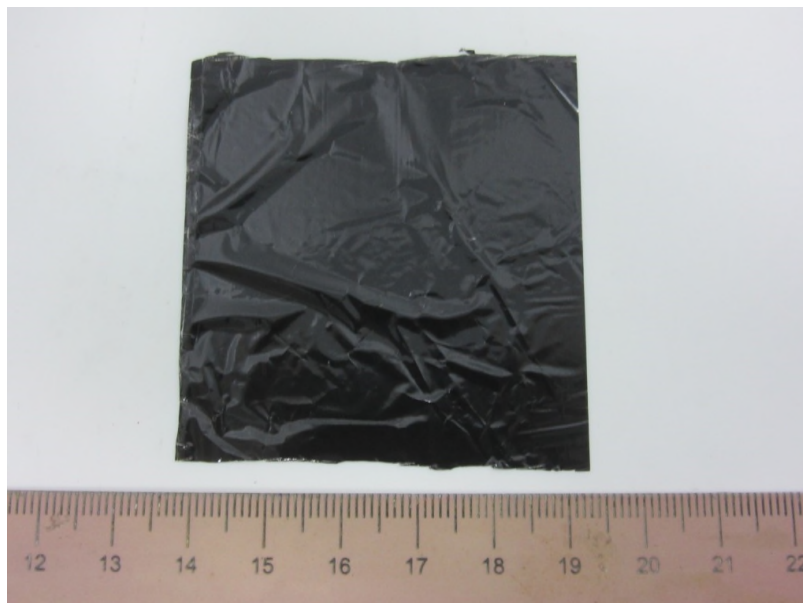
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Sample photo:

Sample Description : Black Film

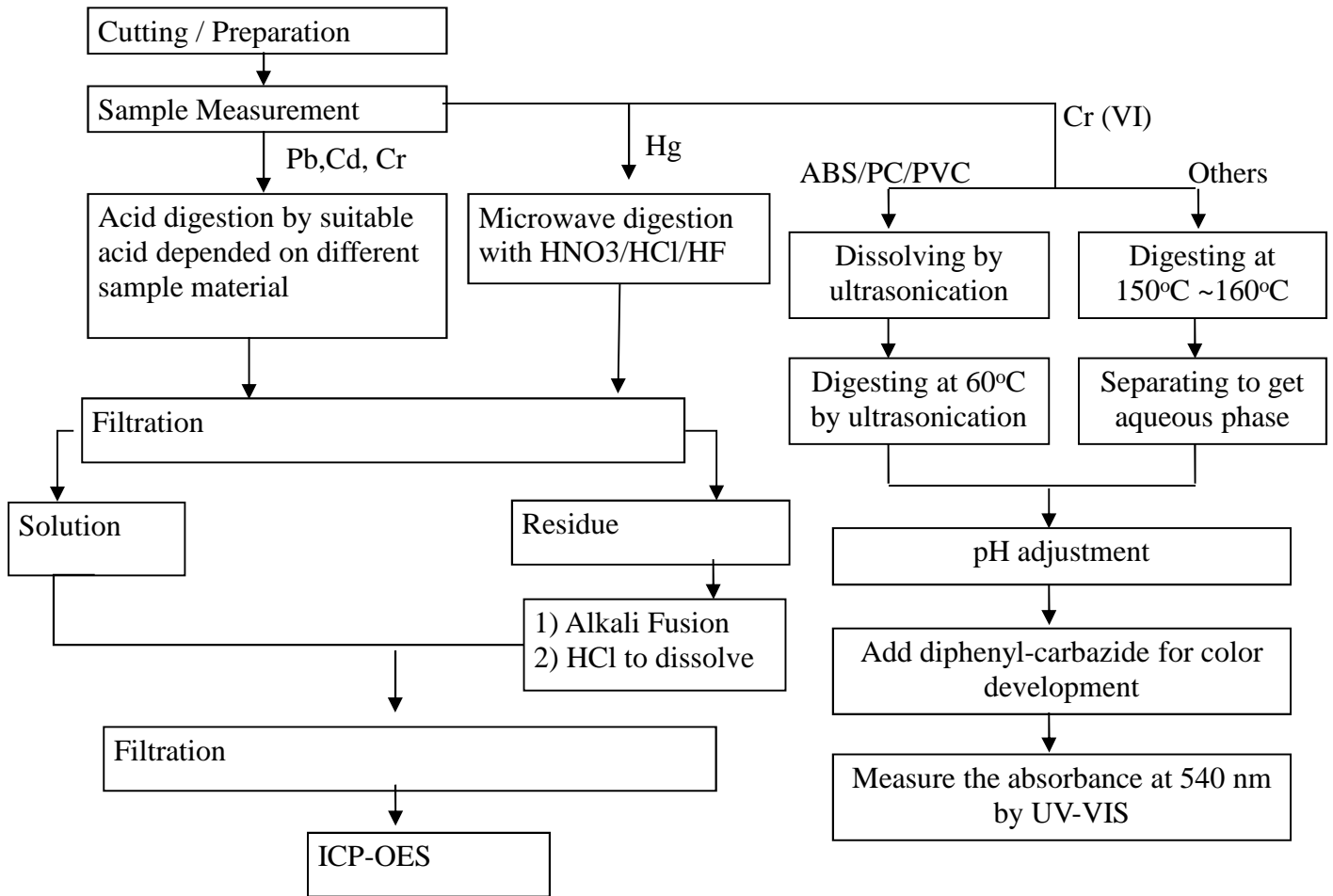
SGS authenticate the photo on original report only



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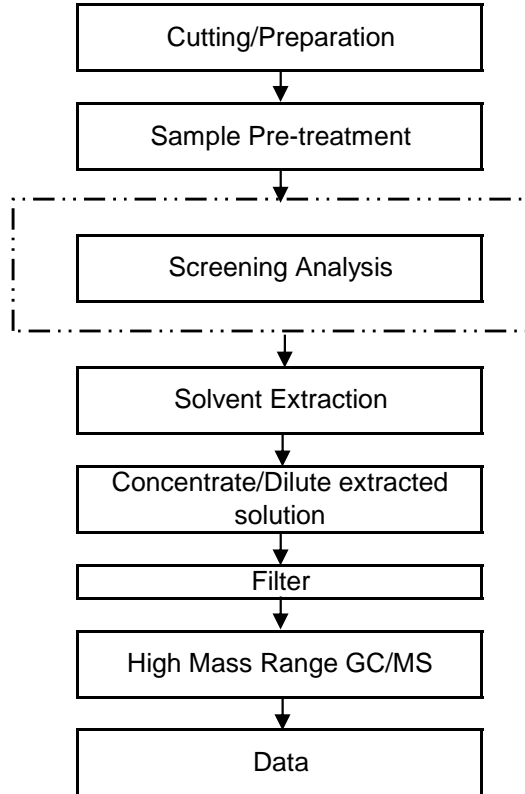
Process Flow of IEC 62321 (Pb, Cd, Hg, Cr & Cr(VI))



Remarks: Sample received was totally dissolved by preconditioning method. (CrVI method excluded)

Process Flow of PBBs and PBDEs by GC/MS (IEC 62321)

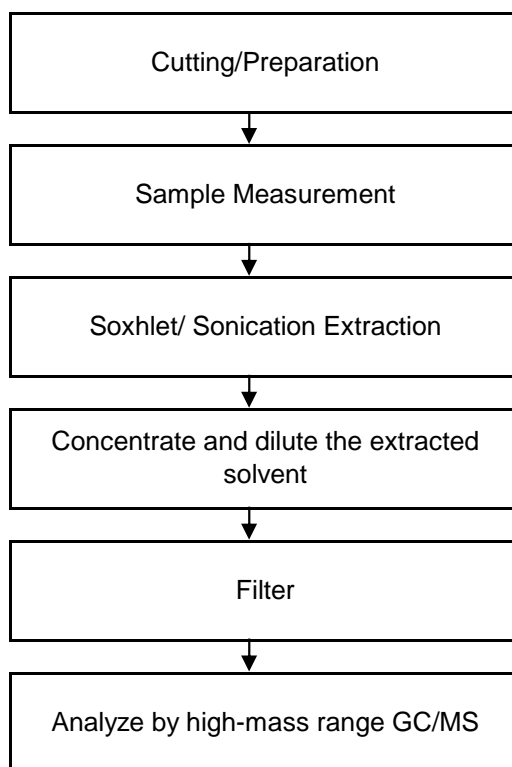
First Testing Process → Optional screen process Confirmation process ...→



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Process Flow of Phthalate by GC/MS (IEC 62321)



End of Report

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