

# TEST REPORT

**Applicant** : NARWHAL TECHNOLOGY (DONGGUAN) CO., LTD.  
**Address** : Room 301, No.62 Zhen'an East Road, Chang'an town Dongguan Guangdong China  
**Manufacturer** : NARWHAL TECHNOLOGY (DONGGUAN) CO., LTD.  
**Address** : Room 301, No.62 Zhen'an East Road, Chang'an town Dongguan Guangdong China

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

**Sample Name** : Regulator set with Hose, diving equipment  
**Trademark** : N/A  
**Model Number** : S1, S2, T1, T2, S3, T3, ST series, LP10/11, BC10/11, HP10/11, H300, P300, T10, T20  
**Sample received date** : Jun.24, 2022  
**Test completed date** : Jun.24, 2022 - Jun.29, 2022  
**Test requested** : Selected test(s) as requested by client..  
**Test method** : Please refer to next page(s)..  
**Test result** : Please refer to next page.

**Conclusion** : Based on the performed tests on selected part of submitted sample(s), the results of Cadmium, Lead, Mercury, Hexavalent chromium, Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs), Disobutyl Phthalate(DIBP), Dibutyl Phthalate(DBP), Benzylbutyl phthalate(BBP), Bis-(2-ethylhexyl) Phthalate(DEHP) do not exceed the limits as set by council CE Directive 2011/65/EU Annex II (EU) 2015/863 as last amended by Directive (EU) 2017/2102.

Approved by:  
Thomas



Date: Jun.29, 2022

Tested Part Description:

- (1) Case
- (2) Nozzles
- (3) Watch Glass
- (4) Counter
- (5) Pointer
- (6) Seal Ring
- (7) Gear
- (8) Nut
- (9) Gasket

Remarks .:

- (1) 1 mg/kg = 0.0001%.
- (2) MDL = Method Detection Limit.
- (3) N.D. = Not Detected ( < MDL ).
- (4) "-" = Not Regulated.

CE Directive 2011/65/EU Annex II (EU) 2015/863 as last amended by Directive (EU) 2017/2102.

Test Method : With reference to IEC 62321-4:2013+A1:2017, IEC62321-5:2013, IEC 62321-6:2015, IEC 62321-7-1:2015, IEC62321-7-2:2017 and IEC62321-8: 2017 analyzed by ICP-OES , UV-Vis and GC-MS .

Test Item(s).	Limit.	Unit.	MDL	(1)
Cadmium (Cd)	100	mg/kg	2	N.D.
Lead (Pb)	1000	mg/kg	2	N.D.
Mercury (Hg)	1000	mg/kg	2	N.D.
Hexavalent Chromium (Cr <sup>6+</sup> )	1000	mg/kg	8	N.D.
Sum of PBBs.	1000	mg/kg	-	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.	1000	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.
Diisobutyl Phthalate(DIBP)	1000	mg/kg	50	N.D.
Dibutyl Phthalate(DBP)	1000	mg/kg	50	N.D.
Benzylbutyl Phthalate(BBP)	1000	mg/kg	50	N.D.
Bis-(2-ethylhexyl) Phthalate(DEHP)	1000	mg/kg	50	N.D.

Test Item(s).	Limit.	Unit.	MDL	(2)
Cadmium (Cd)	100	mg/kg	2	N.D.
Lead (Pb)	1000	mg/kg	2	N.D.
Mercury (Hg)	1000	mg/kg	2	N.D.
Hexavalent Chromium (Cr <sup>6+</sup> )	1000	mg/kg	8	N.D.
Sum of PBBs.	1000	mg/kg	-	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.	1000	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.
Disobutyl Phthalate(DIBP)	1000	mg/kg	50	N.D.
Dibutyl Phthalate(DBP)	1000	mg/kg	50	N.D.
Benzylbutyl Phthalate(BBP)	1000	mg/kg	50	N.D.
Bis-(2-ethylhexyl) Phthalate(DEHP)	1000	mg/kg	50	N.D.

Test Item(s).	Limit.	Unit.	MDL	(3)
Cadmium (Cd)	100	mg/kg	2	N.D.
Lead (Pb)	1000	mg/kg	2	N.D.
Mercury (Hg)	1000	mg/kg	2	N.D.
Hexavalent Chromium (Cr <sup>6+</sup> )	1000	mg/kg	8	N.D.
Sum of PBBs.	1000	mg/kg	-	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.	1000	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.
Diisobutyl Phthalate(DIBP)	1000	mg/kg	50	N.D.
Dibutyl Phthalate(DBP)	1000	mg/kg	50	N.D.
Benzylbutyl Phthalate(BBP)	1000	mg/kg	50	N.D.
Bis-(2-ethylhexyl) Phthalate(DEHP)	1000	mg/kg	50	N.D.

Test Item(s).	Limit.	Unit.	MDL	(4)
Cadmium (Cd)	100	mg/kg	2	N.D.
Lead (Pb)	1000	mg/kg	2	N.D.
Mercury (Hg)	1000	mg/kg	2	N.D.
Hexavalent Chromium (Cr <sup>6+</sup> )	1000	mg/kg	8	N.D.
Sum of PBBs.	1000	mg/kg	-	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.	1000	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.
Diisobutyl Phthalate(DIBP)	1000	mg/kg	50	N.D.
Dibutyl Phthalate(DBP)	1000	mg/kg	50	N.D.
Benzylbutyl Phthalate(BBP)	1000	mg/kg	50	N.D.
Bis-(2-ethylhexyl) Phthalate(DEHP)	1000	mg/kg	50	N.D.

Test Item(s).	Limit.	Unit.	MDL	(5)
Cadmium (Cd)	100	mg/kg	2	N.D.
Lead (Pb)	1000	mg/kg	2	N.D.
Mercury (Hg)	1000	mg/kg	2	N.D.
Hexavalent Chromium (Cr <sup>6+</sup> )	1000	mg/kg	8	N.D.
Sum of PBBs.	1000	mg/kg	-	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.	1000	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.
Diisobutyl Phthalate(DIBP)	1000	mg/kg	50	N.D.
Dibutyl Phthalate(DBP)	1000	mg/kg	50	N.D.
Benzylbutyl Phthalate(BBP)	1000	mg/kg	50	N.D.
Bis-(2-ethylhexyl) Phthalate(DEHP)	1000	mg/kg	50	N.D.

Test Item(s).	Limit.	Unit.	MDL	(6)
Cadmium (Cd)	100	mg/kg	2	N.D.
Lead (Pb)	1000	mg/kg	2	N.D.
Mercury (Hg)	1000	mg/kg	2	N.D.
Hexavalent Chromium (Cr <sup>6+</sup> )	1000	mg/kg	8	N.D.
Sum of PBBs.	1000	mg/kg	-	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.	1000	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.
Diisobutyl Phthalate(DIBP)	1000	mg/kg	50	N.D.
Dibutyl Phthalate(DBP)	1000	mg/kg	50	N.D.
Benzylbutyl Phthalate(BBP)	1000	mg/kg	50	N.D.
Bis-(2-ethylhexyl) Phthalate(DEHP)	1000	mg/kg	50	N.D.



Test Item(s).	Limit.	Unit.	MDL	(7)
Cadmium (Cd)	100	mg/kg	2	N.D.
Lead (Pb)	1000	mg/kg	2	N.D.
Mercury (Hg)	1000	mg/kg	2	N.D.
Hexavalent Chromium (Cr <sup>6+</sup> )	1000	mg/kg	8	N.D.
Test Item(s).	Limit.	Unit.	MDL	(8)
Cadmium (Cd)	100	mg/kg	2	N.D.
Lead (Pb)	1000	mg/kg	2	N.D.
Mercury (Hg)	1000	mg/kg	2	N.D.
Hexavalent Chromium (Cr <sup>6+</sup> )	1000	mg/kg	8	N.D.
Test Item(s).	Limit.	Unit.	MDL	(9)
Cadmium (Cd)	100	mg/kg	2	N.D.
Lead (Pb)	1000	mg/kg	2	N.D.
Mercury (Hg)	1000	mg/kg	2	N.D.
Hexavalent Chromium (Cr <sup>6+</sup> )	1000	mg/kg	8	N.D.

Notes :

(1) The maximum permissible limit is quoted from CE 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](http://www.cenelec.eu/dyn/www/f?p=104:30:1742232870351101:::FSP_ORG_ID,FSP_LANG_ID:1258637,25).

(2) On 4 June 2015, Commission Directive (EU) 2015/863 was published in the Official Journal of the European Union (OJEU) to include the phthalates BBP, DBP, DEHP and DIBP into ANNEX II of the CE Recast Directive. The new law restricts each phthalate to no more than 0.1% in each homogeneous material of an electrical product.

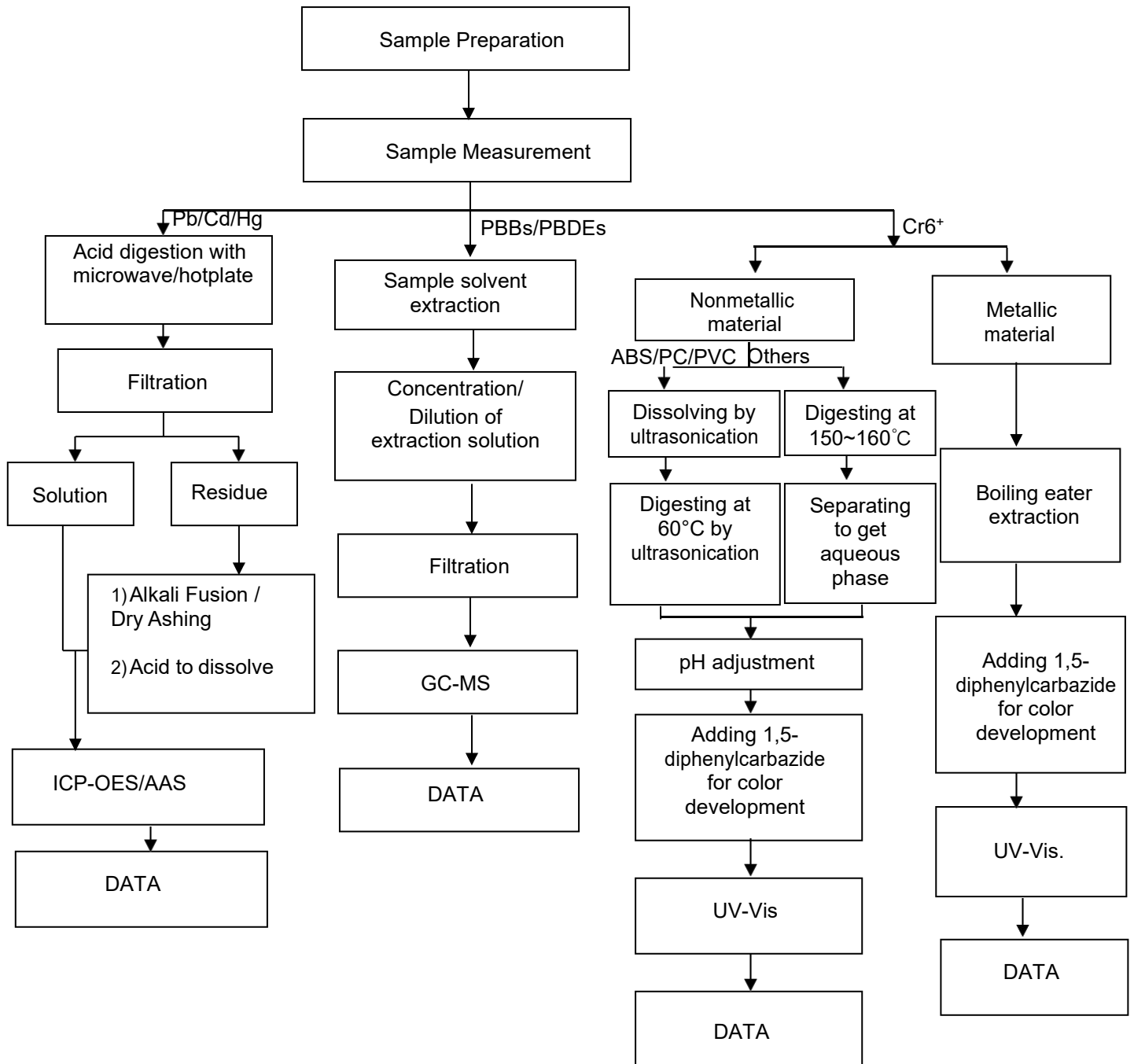
(3) The restriction of DEHP, BBP, DBP and DIBP shall apply to medical devices, including in vitro medical devices, and monitoring and control instruments, including industrial monitoring and control instruments, from 22 July 2021.

(4) The restriction of DEHP, BBP, DBP and DIBP shall not apply to cables or spare parts for the repair, the reuse, the updating of functionalities or upgrading of capacity of EEE placed on the market before 22 July 2019, and of medical devices, including in vitro medical devices, and monitoring and control instruments, including industrial monitoring and control instruments, placed on the market before 22 July 2021.

(5) The restriction of DEHP, BBP and DBP shall not apply to toys which are already subject to the restriction of DEHP, BBP and DBP through entry 51 of Annex XVII to Regulation (EC) No 1907/2006.

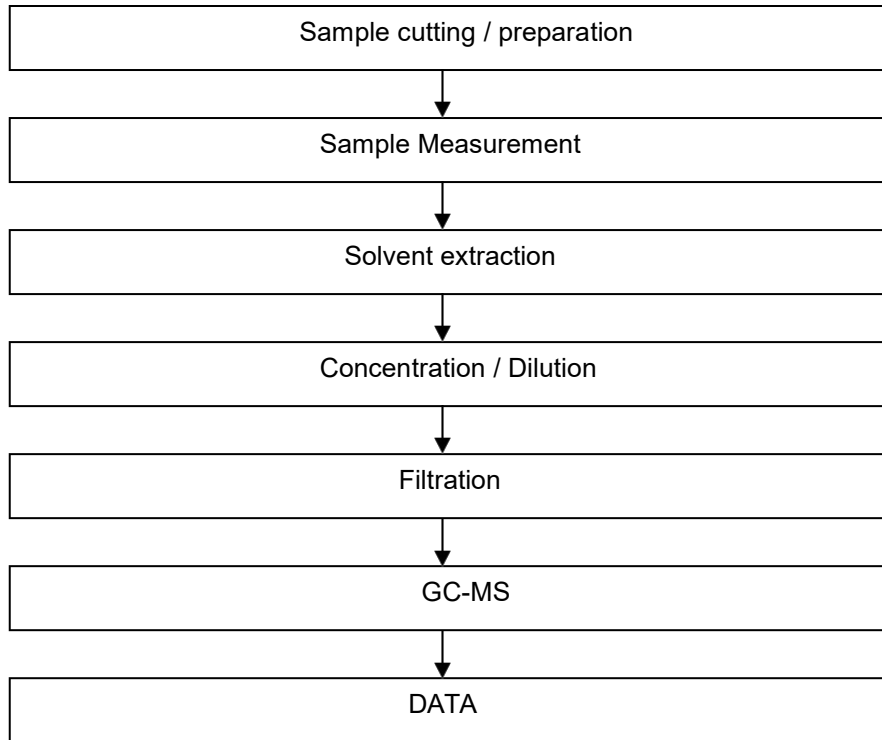
**Pb/Cd/Hg/Cr6+/PBBs/PBDEs Testing Flow Chart**

- 1) Name of the person who made testing: Mason
- 2) Name of the person in charge testing: Lucas
- 3) These samples were dissolved totally by pre-conditioning method according to below flow chart (Cr<sup>6+</sup> and PBBs/PBDEs test method excluded).



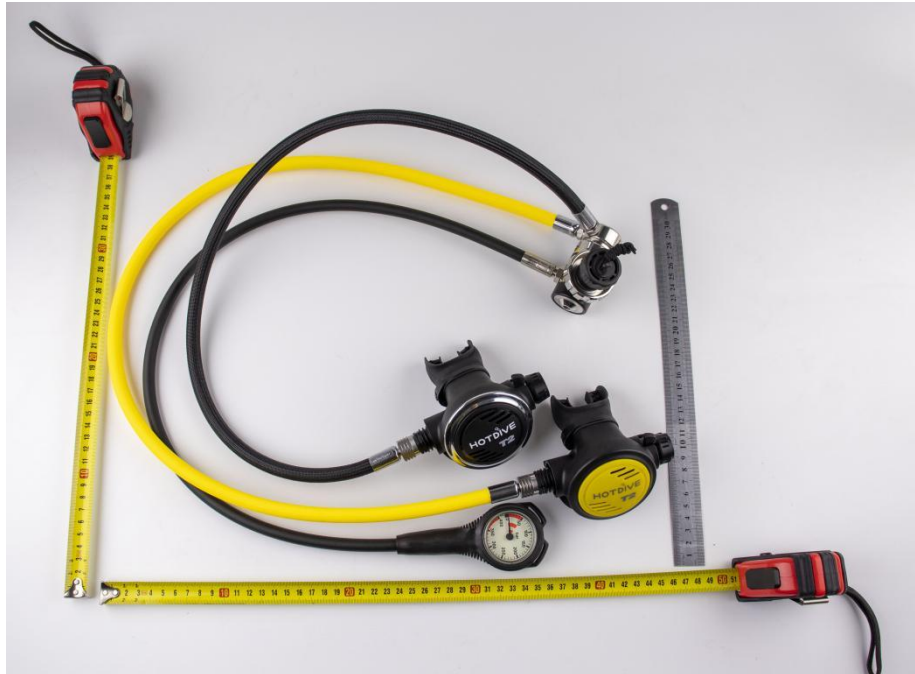
### Phthalats Testing Flow Chart

- 1) Name of the person who made testing: Mason
- 2) Name of the person in charge testing: Lucas



## 5. Photographs

Photo



\*\*\*\*\* END OF REPORT \*\*\*\*\*