

Applicant: Beijing Huimao Cooling Equipment Co.,Ltd.
Room No.5112,Floor 5,Building 8,No.9 Guangping Street,Economic Development Zone,Da Xing
Address: District,Beijing,China



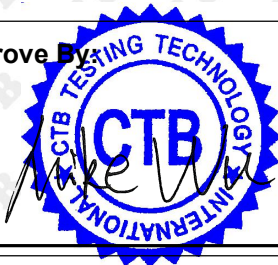
Manufacturer: Beijing Huimao Cooling Equipment Co.,Ltd.
Room No.5112,Floor 5,Building 8,No.9 Guangping Street,Economic Development Zone,Da Xing
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The following samples were submitted and identified on behalf of the clients as:

Sample name: Thermoelectric cooling module
Brand: /
Model(s): See page 2
Sample received date: May 19,2022
Testing period: May 19,2022 to May 26,2022
Test Method: Please refer to next page(s).
Test Result: Please refer to next page(s).

Result Summary :

Test Requested	Conclusion
European Directive 2011/65/EU and amendment (EU) 2015/863 on the restriction of the use of certain hazardous substances in electrical and electronic equipment	PASS

Tested By: 	Check By: 	Approve By: 
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Date: May 26, 2022

Note: If there is any objection to the inspection results in this report, please submit a written report to the company within 15 days from the date of receiving the report. The test report is effective only with both signature and specialized stamp. This result(s) shown in this report refer only to the sample(s) tested. Without written approval of Shenzhen CTB Testing Technology Co., Ltd. this report can't be reproduced except in full. The tested sample(s) and the sample information are provided by the client. "*" indicates the testing items were fulfilled by subcontracted lab. "#" indicates the items are not in CNAS accreditation scope.



TEST REPORT

Series models as below (page 2) :

Model(s) :	TEC1-12706T125,TEC1-07104T125,TEC1-28720T200,TEC2-25407T125,TES1-03103T125,TEC1-24118T200,TES1-3202T125,TEC1-12708T125,TEC1-12704T125,TES1-06304T125,TEC1-12712T125,TES1-04702T125,TEC1-07106T125,TES1-04903T125,TES1-12703T125,TEC1-07103T125,TES1-071035T125,TES1-01201A ,TEC1-12703T125,TEC1-12705T125,TEC1-12708T125,TEC1-12709T125,TEC1-12715T125,TES1-12702T125,TES1-12704T125,TES1-12705T125,TEC1-07109T125,TEC1-04715T125,TEC2-25406T125,TEC2-25408T125,TEC2-25405T125,TEC3-22903T125,TEC1-09515T125,TES1-06302T125,TEC1-12706T200,TEC1-12706T150,TES1-1702T125,TES1-3101T125,TEG1-127-2.8-1.6T250HP,TEC4-24606T125,TEC1-16108T125,TEC1-16115T125,TEC1-12724T125,TEC1-19928T125
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Test Method:

A. Screening test by XRF spectroscopy

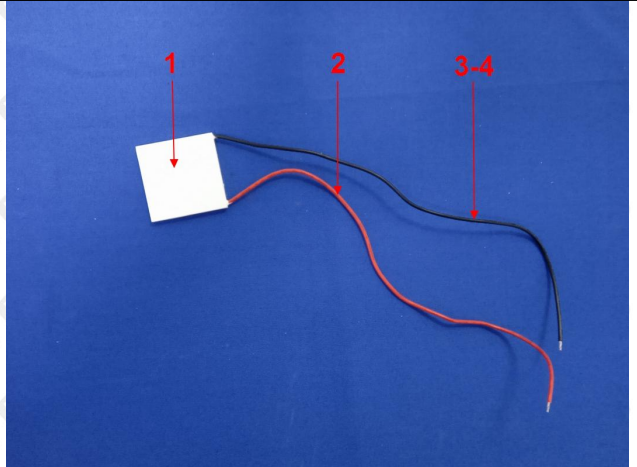
XRF screening limits for regulated elements according to IEC 62321-3-1:2013

Element	Screening limit / mg/kg		MDL	
	Polymers and metals	Composite material	Polymers	Other material
Pb	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < X < (1500+3\sigma) \leq OL$	10mg/kg	50mg/kg
Cd	$BL \leq (70-3\sigma) < X < (130+3\sigma) \leq OL$	$LOD \leq (50-3\sigma) < X < (150+3\sigma) \leq OL$	10mg/kg	50mg/kg
Hg	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < X < (1500+3\sigma) \leq OL$	10mg/kg	50mg/kg
Cr	$BL \leq (700-3\sigma) < X$	$BL \leq (500-3\sigma) < X$	10mg/kg	50mg/kg
Br	$BL \leq (300-3\sigma) < X$ (non-metal only)	$BL \leq (250-3\sigma) < X$	10mg/kg	50mg/kg

B. Chemical Test

Test Item(s)	Test Method	Analysis Equipment(s)	MDL	Limit
Lead (Pb)	IEC 62321-5:2013	ICP-OES	10mg/kg	1000mg/kg
Cadmium (Cd)	IEC 62321-5:2013	ICP-OES	10mg/kg	100mg/kg
Mercury (Hg)	IEC 62321-4:2013+AMD1:2017	ICP-OES	10mg/kg	1000mg/kg
Hexavalent Chromium Cr(VI)	IEC 62321-7-1:2015 & IEC 62321-7-2:2017	UV-VIS	10mg/kg	1000mg/kg
Polybrominated Biphenyls (PBBs)	IEC 62321-6:2015	GC-MS	10mg/kg	1000mg/kg
Polybrominated Diphenyl Ethers (PBDEs)	IEC 62321-6:2015	GC-MS	10mg/kg	1000mg/kg
Dibutyl Phthalate	IEC 62321-8:2017	GC-MS	30mg/kg	1000mg/kg
Benzylbutyl Phthalate	IEC 62321-8:2017	GC-MS	30mg/kg	1000mg/kg
Bis-(2-ethylhexyl)Phthalate	IEC 62321-8:2017	GC-MS	30mg/kg	1000mg/kg
Diisobutyl phthalate	IEC 62321-8:2017	GC-MS	30mg/kg	1000mg/kg

Tested material list

No.	Description	Photo
1	White material	
2	Red plastic wire skin	
3	Black plastic wire skin	
4	Wire core	

Test Result(s):

No.	XRF screening Result					Chemical confirm Result (mg/kg)	Remark	Conclusion
	Pb	Cd	Hg	Cr	Br			
1	BL	BL	BL	BL	BL	---	---	PASS
2	BL	BL	BL	BL	BL	---	---	PASS
3	BL	BL	BL	BL	BL	---	---	PASS
4	BL	BL	BL	BL	NA	---	---	PASS

Test Item(s)	Dibutyl Phthalate (DBP) (mg/kg)	Benzylbutyl Phthalate (BBP) (mg/kg)	Bis-(2-ethylhexyl) Phthalate (DEHP) (mg/kg)	Diisobutyl phthalate (DIBP) (mg/kg)	Conclusion
CAS No.	84-74-2	85-68-7	117-81-7	84-69-5	
Limit	1000	1000	1000	1000	
No.	Result (mg/kg)				
1	N.D	N.D	N.D	N.D	PASS
2+3	N.D	N.D	N.D	N.D	PASS

Remark:

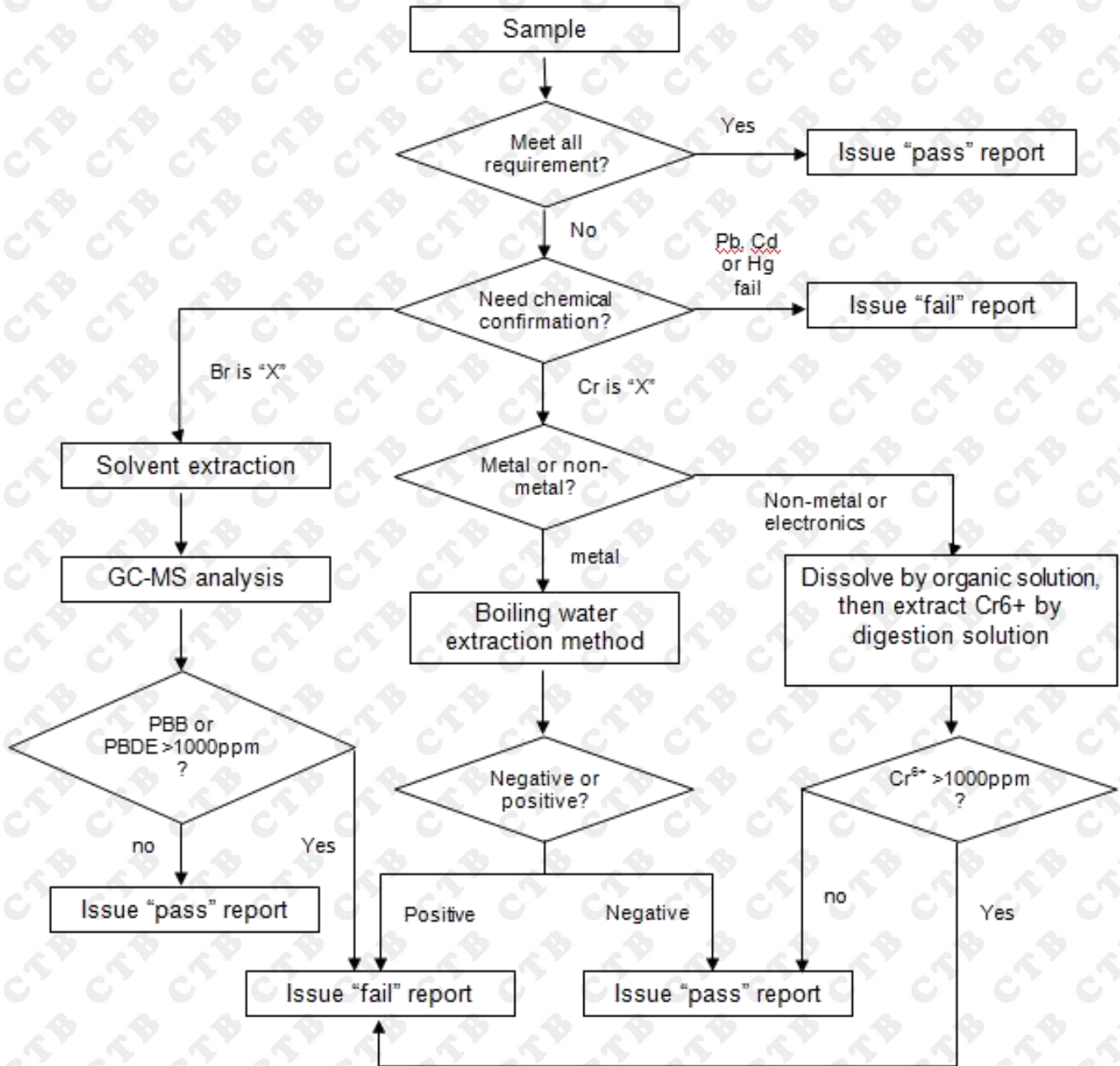
1. BL = below the limit
2. OL = over the limit
3. X = inconclusive, chemical confirm test is needed
4. NA = not applicable
5. mg/kg = milligram per kilogram = ppm
6. N.D = not detected
7. Negative = The Cr⁶⁺ concentration is below the limit of quantification. The coating is considered a non- Cr⁶⁺ based coating.
8. Positive = The Cr⁶⁺ concentration is above the limit of quantification and the statistical margin of error, The sample coating is considered to contain Cr⁶⁺.
9. The limit for composite test should be divided by the mixed number.

Note:

1. When perform screening tests, it is the result on total Br while test item on restricted substances is PBBs/PBDEs, it is the result on total Cr while test item on restricted substances is Cr⁶⁺.
2. Pb, Cd, Hg, Cr and Br results are obtained by EDXRF for primary screening, and further chemical testing by ICP-OES (for Cd, Pb, Hg), UV-VIS (for Cr⁶⁺) and GC-MS (for PBBs, PBDEs) is needed to be performed, if the concentration falls into the inconclusive area according to IEC 62321-3-1:2013.
3. For the XRF screening test for RoHS elements, the reading may be different to the actual content in the sample be of non-uniformity composition.

Test flow chart

1. Pb/Cd/Hg/Cr⁶⁺/PBBs/PBDEs



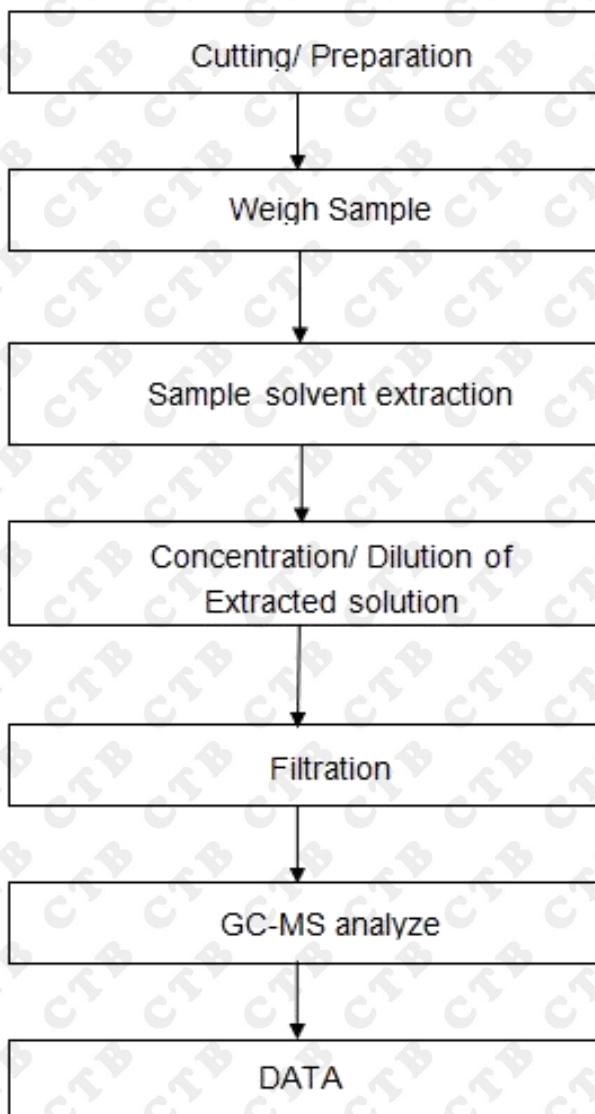
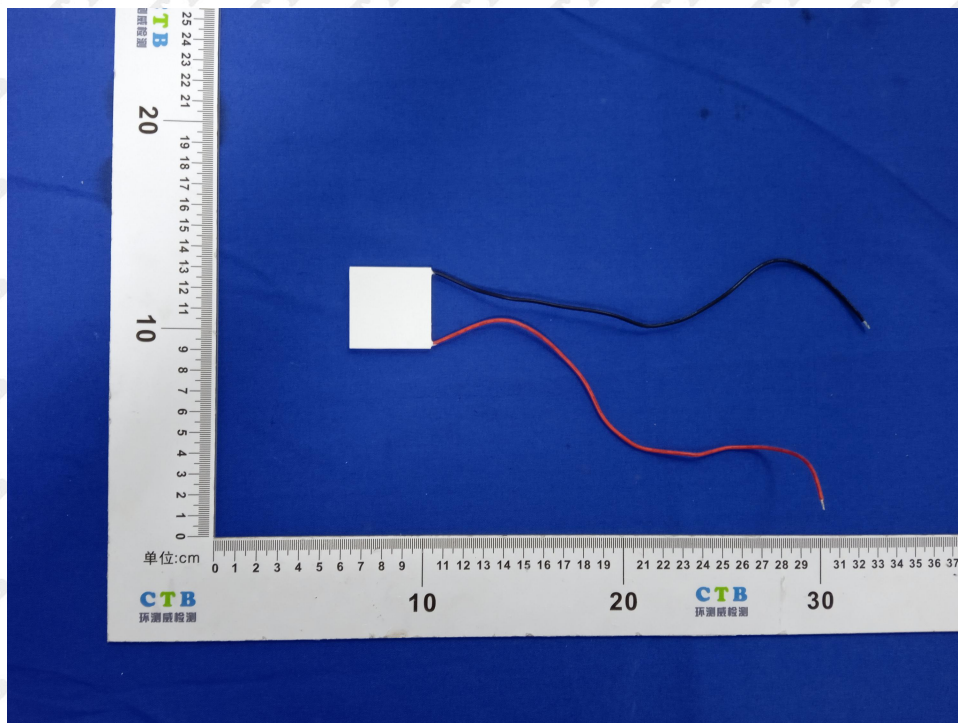
2. Phthalate test flow chart

Photo documentation



*** End of Report ***