DAkkS Deutsche Akkreditierungsstelle D-PL-11180-01-00

TÜVRheinland®
Precisely Right.

Test Report No.: Q00221656a 001

Client: **A.M. RAMP & CO HONG KONG LIMITED**
Room 2, 20/F, Malaysia Building, 50 Gloucester Road, Wanchai, Hong Kong

Test item(s): Pad Printing Ink

Identification/ Model No(s): Pad Printing Ink
T 45 B1 – B 12, T 45 0003

Sample Receiving date: 2013-04-08

Testing Period: 2013-04-10 – 2013-04-15

Test specification:	**Test result:**
Customer Requirement: Cadmium, Lead, Chromium VI, Mercury, Polybrominated biphenyls (PBB) and Polybrominated diphenyl ethers (PBDE). According to RoHS (recast): Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment, 2011/65/EU.	PASS

Other Information:
Other information provided by client:
Country of Origin: Germany

For and on behalf of
TÜV Rheinland (Hong Kong) Ltd.

2013-04-19 Andy Ng/ Assistant Project Manager

Date *Name/Position*

Test result is drawn according to the kind and extent of tests performed.
This test report relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any safety mark on this or similar products.

Material list

Item: Pad Printing Ink
T 45 B1 – B 12, T 45 0003

Material No.	Material	Color	Location
M001	Ink	Black	Refer to photo

Test Report No.: Q00221656a 001

1. Cadmium, Lead, Chromium VI, Mercury, Polybrominated biphenyls (PBB) and Polybrominated diphenyl ethers (PBDE)

Test method : Total Cadmium, Lead, Mercury, Chromium
- Ref. to EN 62321:2009

Chromium VI – Ref. to EN 62321:2009
(for Leather Material, Chromium VI - Ref. to ISO 17075:2007)

PBBs, PBDEs – Ref. to EN 62321:2009

Material list

Material No.	Material	Color	Remark	Test plan A= Test HM only B = Test FR only C = Test HM + FR
M001	Ink	Black	Refer to photo	C

Abbreviation: HM (Heavy metal) = Cd, Pb, Hg, Cr VI
FR (Flame Retardant) = PBBs, PBDEs

Test result:

	Cd	Cr (VI)	Pb	Hg	PBBs (*)	PBDEs (*)
Maximum permissible Limit (mg/kg)	100	1000	1000	1000	1000	1000

Material No.	(mg/kg)					
	Cd	Cr^	Pb	Hg	PBBs (*)	PBDEs (*)
	RL (mg/kg)					
	10	10	10	10	5	5
M001	n.d.	13	n.d.	n.d.	n.d.	n.d.

Abbreviation:
Pb = Lead
Cd = Cadmium
Hg = Mercury
Cr = Chromium
Cr (VI) = Chromium (VI)
PBBs = Total Polybrominated Biphenyls
PBDEs = Total Polybrominated Diphenyl Ethers
n.d. = Not Detected (< Reporting Limit)
RL = Reporting Limit
N.A. = Not Applicable
^ = The total Chromium have been determined.
mg/kg = milligram per kilogram

Remark:

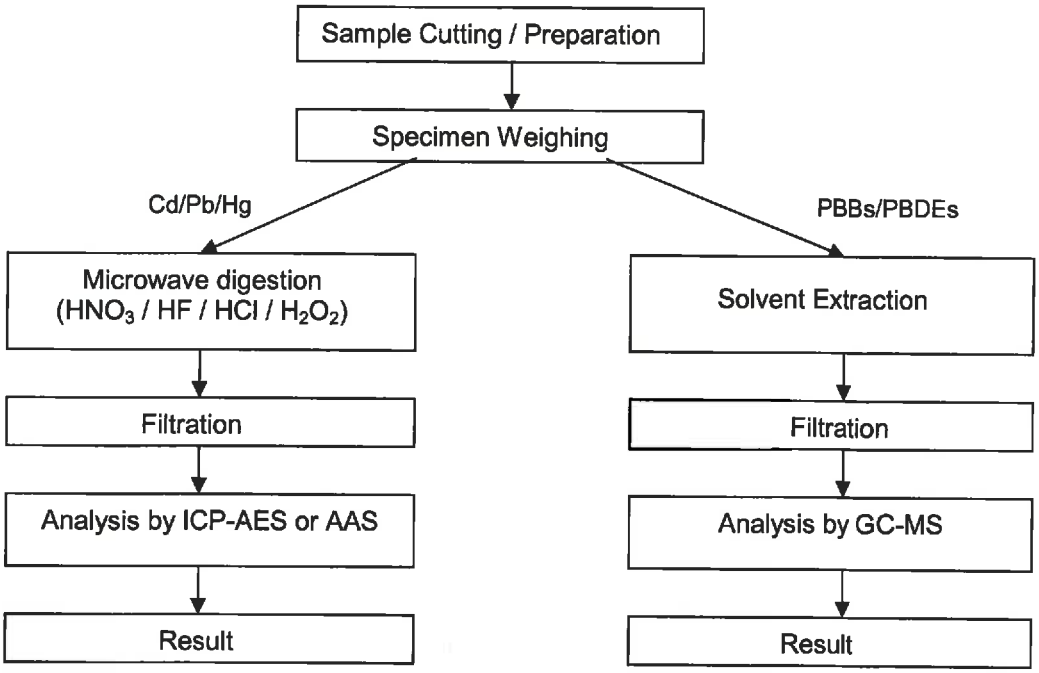
*1 The plating / coating of all the metal sample(s) is not confirmed, it cannot be further mechanically disjointed into different materials.

* The reporting limit for each individual PBBs and individual PBDEs are:

	Reporting Limit (mg/kg)	
PBBs	Bromobiphenyl	1
	Dibromobiphenyl	1
	Tribromobiphenyl	1
	Tetrabromobiphenyl	1
	Pentabromobiphenyl	2
	Hexabromobiphenyl	2
	Heptabromobiphenly	2
	Octabromobiphenyl	5
	Nonabromobiphenyl	5
	Decabromobiphenyl	5
PBDEs	Bromodiphenylether	1
	Dibromodiphenyl ether	1
	Tribromodiphenyl ether	1
	Tetrabromodiphenyl ether	1
	Pentabromodiphenyl ether	2
	Hexabromodiphenyl ether	2
	Heptabromodiphenyl ether	2
	Octabromodiphenyl ether	5
	Nonabromodiphenyl ether	5
	Decabromodiphenyl ether	5

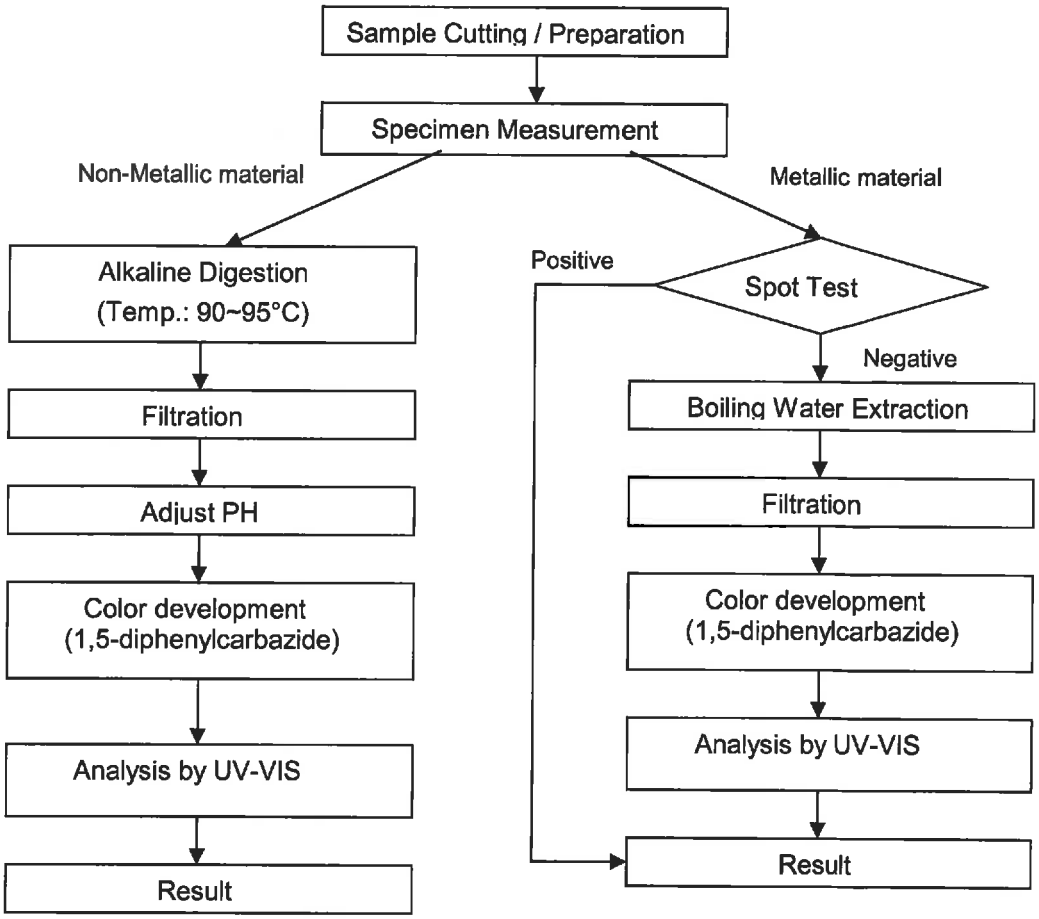
Annex:

1. Testing Flow Chart for Cadmium (Cd) / Lead (Pb) / Mercury (Hg) / PBBs & PBDEs



Test Report No.: Q00221656a 001

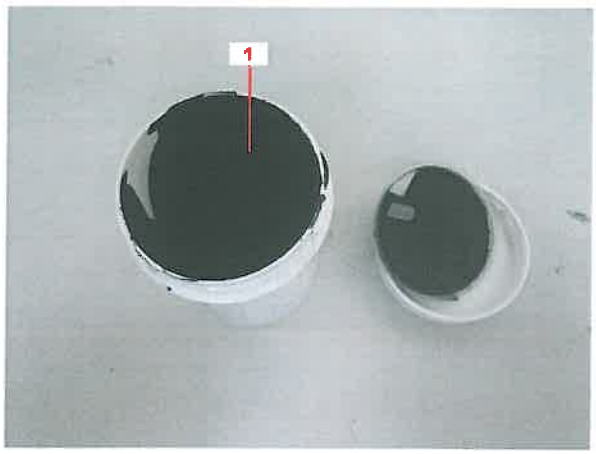
2. Testing Flow Chart for Chromium (VI)



Testing Laboratory accredited by DAkkS according to DIN EN ISO/IEC 17025. The accreditation is valid for the test methods stated in the certificate.

Test Report No.: Q00221656a 001

Sample Photo:



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