Report No.: **0248103053-04**

Client:

SHANGHAI KEYING TRADING CO.,LTD (UP GROUP)
740 North of Zhong Shan Road, Shanghai, 200070, China
Tel.: 021-63174205
Contact person: Mr. Simon Huang

Test Item(s): Ink

Identification/ Model No(s): SolkJET2589K-G+ ; Model: Printing ink; Material: Solution; Color: Black

Sample receiving date: 2019-05-13

Test period: 2019-05-15 to 2019-05-20

Test Specification:	***Test result:***
Legal requirement: Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment, 2011/65/EU and its amendments	
1. Cadmium, Lead, Chromium (VI), Mercury, Polybrominated biphenyls (PBB) and Polybrominated diphenyl ethers (PBDE)	PASS
2. Phthalates (DEHP, DBP, BBP, DiBP)	PASS

For and on behalf of
TÜV Rheinland Vietnam Co., Ltd.

TÜV Rheinland Vietnam Co., Ltd.

Ms. Hoa Thi Xuan Dieu/
Project Manager

2019-07-11
Date

Name/Position

Test result is drawn according to the kind and extent of tests performed.

Material List:

Material No.	Material	Color	Location
M001	Ink	Black	Ink

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

Test method: - Total Cadmium, Lead, Mercury:
Totally digested then determination by ICP-OES, follow IEC 62321-4:2013 and IEC 62321-5:2013

- Chromium (VI):
Non-metal: Alkaline digestion, determination by UV-Vis spectrophotometry
Metal: spot test and followed by boiling water test, follow IEC 62321-7-1:2015

- PBBs, PBDEs:
Extraction with organic solvent, determination by GC-MS, follow IEC 62321-6:2015

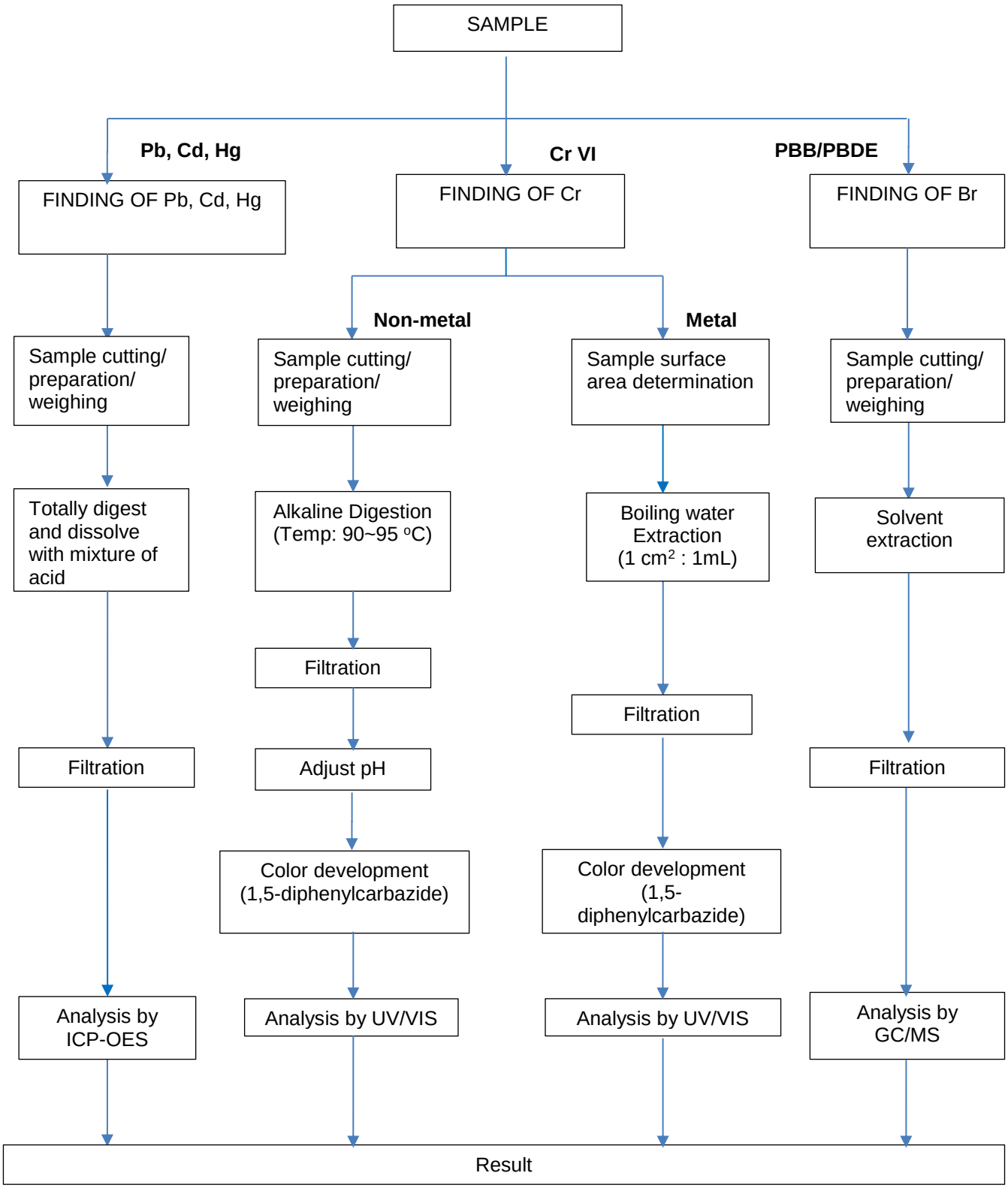
Test result:

			Material No.	**M001**
Test parameter	**Unit**	**RL**	**Requirement**	**Result**
Cadmium (Cd)	mg/kg	2	< 100	n.d.
Lead (Pb)	mg/kg	2	< 1000	n.d.
Mercury (Hg)	mg/kg	2	< 1000	n.d.
Chromium VI (Cr VI) for metal protective coating	µg/cm^2	0.02	< 0.1	N.A.
Chromium VI (Cr VI)	mg/kg	3	< 1000	490
Total Polybrominated biphenyls (PBBs) (*)	mg/kg	5	< 1000	n.d.
Total Polybrominated biphenyl ethers (PBDEs) (*)	mg/kg	5	< 1000	n.d.
Conclusion				Pass

Abbreviation: mg/kg = milligram per kilogram
RL = Reporting Limit
n.d.= Not Detected (<RL)
µg/cm^2 = microgram per square centimeter
N.A.: Not Applicable

Remark: *According to IEC* 62321-7-1:2015*, result of Cr VI for metal sample is shown as Pass/Fail/Inconclusive.*
Pass = Absence of Cr VI coating, Cr VI concentration is below the 0,10 µg/cm^2
Fail = Presence of Cr VI coating, Cr VI concentration is above 0.13 µg/cm^2
Inconclusive = Cr VI concentration is between 0.10~0.13 µg/cm^2*. Further test with extra samples is recommended*

Flow chart for RoHs



(*)

List of PBBs	List of PBDEs
Bromobiphenyl (MonoBB)	Bromodiphenyl ether (MonoBDE)
Dibromobiphenyl (DiBB)	Dibromodiphenyl ether (DiBDE)
Tribromobiphenyl (TriBB)	Tribromodiphenyl ether (TriBDE)
Tetrabromobiphenyl (TetraBB)	Tetrabromodiphenyl ether (TetraBDE)
Pentabromobiphenyl (PentaBB)	Pentabromodiphenyl ether (PentaBDE)
Hexabromobiphenyl (HexaBB)	Hexabromodiphenyl ether (HexaBDE)
Hexabromobiphenyl (HeptaBB)	Heptabromodiphenyl ether (HeptaBDE)
Octabromobiphenyl (Tech)(OctaBB)	Octabromodiphenyl ether (OctaBDE)
Nonabromobiphenyl (NonaBB)	Nonabromodiphenyl ether (NonaBDE)
Decabromobiphenyl (DecaBB)	Decabromodiphenyl ether (DecaBDE)

2. Phthalates (DEHP, DBP, BBP, DiBP)

Test method: Extraction with organic solvent, determination by GC-MS
With reference to IEC 62321-8 (111/321/CD)

Test result:

			Material No.	**M001**
Test parameter	**Unit**	**RL**	**Requirement**	**Result**
Diethylhexylphthalate (DEHP)	mg/kg	50	< 1000	n.d.
Dibutylphthalate (DBP)	mg/kg	50	< 1000	n.d.
Benzylbutylphthalate (BBP)	mg/kg	50	< 1000	n.d.
Diisobutylphthalate (DiBP)	mg/kg	50	< 1000	n.d.
Conclusion				Pass

Abbreviation: n.d. = not detected (< Reporting Limit)
RL = Reporting Limit
mg/kg = milligram per kilogram

Sample photo:

Lab ID.: A000921002-002

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