



# NM LABORATORY SDN. BHD. (563645-P)

80, LORONG PERDA SELATAN 1, BANDAR PERDA,  
14000 BUKIT MERTAJAM, PULAU PINANG, MALAYSIA.  
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**LABORATORY TESTINGS AND ANALYSIS CONSULTANCY**



MS ISO/IEC 17025  
**TESTING**  
SAMM NO. 158

## CERTIFICATE OF ANALYSIS

Certificate No : SP/08-07/0081

To : DIC (MALAYSIA) SDN.BHD.  
2, Puncak Perusahaan Satu,  
Kawasan MIEL,  
13600 Prai,  
Pulau Pinang.  
Attn : Ms Elaine

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Date Of Issue : 08/07/2008

**Customer's Sample Description :**

OFFSET INK MIXTURE 3  
CONSIST OF 9085 CARBON BLACK, NCP 1004 SILVER, NCP PALE GOLD,  
9079 TITAN WHITE, 9062 CY ANINE GREEN, 9057 BLUE,  
9060 VIOLET & 9070 VIOLET



Date Of Sample Received : 01/07/2008  
Date Of Testing : 01/07/2008 To 08/07/2008

**Objective of Test**

Determination of Cadmium, Lead, Mercury, Hexavalent Chromium, PBBs and PBDEs in accordance with EU Directive 2002/95/EC (RoHS).

**Standard Method / Equipment / Technique Description**

USEPA Method 3052	Microwave assisted acid digestion of siliceous and organically based matrices
USEPA Method 6010B	Inductive Coupled Plasma-Atomic Emission Spectroscopy
USEPA Method 3060A	Alkaline digestion for Hexavalent Chromium
USEPA Method 7196A	Hexavalent Chromium-Colorimetric by UV/Vis Spectroscopy
USEPA Method 3540C	Soxhlet Extraction
GC/MS	Gas Chromatography-Mass Spectrometry

**Measurement flowchart (Issue upon request)**

- Refer to Appendix A - Measurement for Cadmium, Lead and Mercury
- Appendix B - Measurement for Chromium Hexavalent
- Appendix C - Measurement for PBB & PBDE

For NM LABORATORY SDN. BHD.

JOB NO.: SP807/0023  
Test performed by : Ms. Tan Hooi Cheng  
Ms. Lim Sie Hui

Certified By: \_\_\_\_\_  
Yeap Cheo Mooi, M. Sc, AMIC  
Operation Manager



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Date of Issue : 08/07/2008

Customer : DIC (MALAYSIA) SDN.BHD.

## Analysis Result

Type of Analysis/Parameters/ Properties measured	Analysis Results	Unit	Preconditioning Method / Technique	Measurement Method / Equipment	MDL; mg/kg	RoHS Limit; mg/kg
Cadmium (as Cd)	ND	mg/kg	USEPA Method 3052	USEPA Method 6010B	0.5	100
Lead (as Pb)	ND				1	1000
Mercury (as Hg)	ND				5	
Chromium Hexavalent (as Cr <sup>6+</sup> )	ND				USEPA Method 3060A	USEPA Method 7196A

Chemical compound	Analysis Result	Unit	Preconditioning Method	Measurement Method	MDL; mg/kg	RoHS Limit; mg/kg
Polybrominated Biphenyls (PBBs)	Monobromobiphenyl	mg/kg	USEPA Method 3540C	GC/MS	5	-
	Dibromobiphenyl					
	Tribromobiphenyl					
	Tetrabromobiphenyl					
	Pentabromobiphenyl					
	Hexabromobiphenyl					
	Heptabromobiphenyl					
	Octabromobiphenyl					
	Nonabromobiphenyl					
	Decabromobiphenyl					
<b>Total PBBs</b>					-	1000

Chemical compound	Analysis Result	Unit	Preconditioning Method	Measurement Method	MDL; mg/kg	RoHS Limit; mg/kg
Polybrominated Diphenyl Ethers (PBDEs)	Monobromodiphenyl ether	mg/kg	USEPA Method 3540C	GC/MS	5	-
	Dibromodiphenyl ether					
	Tribromodiphenyl ether					
	Tetrabromodiphenyl ether					
	Pentabromodiphenyl ether					
	Hexabromodiphenyl ether					
	Heptabromodiphenyl ether					
	Octabromodiphenyl ether					
	Nonabromodiphenyl ether					
	Decabromodiphenyl ether					
<b>Total PBDEs</b>					-	1000

**Remark** : The test portion was "Totally Dissolved" for Cadmium, Lead & Mercury test by using pre-conditioning method as mentioned above.

**Conclusion** : The sample analysis results were not exceed the maximum concentration values for Cd, Pb, Hg, Cr<sup>6+</sup>, PBB and PBDE as stipulated in amendment 2005/618/EC of EU Directive 2002/95/EC (RoHS).

**Note** : All the parameters above was tested base on dry basis