



<b>Report For:</b>	Microforum Services Group 1 Woodborough Avenue Toronto, Ontario M6M 5A1 Phone: 416-654-8008 x152 Email: frank.stipo@microforum.com	<b>Laboratory #:</b>	559908-10
<b>Attention:</b>	Frank Stripo	<b>Report Date:</b>	November 12, 2010
<b>Specimen:</b>	Consumer Product	<b>Received Date:</b>	November 8, 2010

**TEST REPORT**  
**RE: ANALYSIS OF COMPONENTS FOR SOLUBLE**  
**AND TOTAL HEAVY METALS CONTENT**

1.0 INTRODUCTION

On November 8, 2010, CMTL received nine (9) samples (15 components) for analysis to determine presence and relative concentration of soluble and total heavy metals content in accordance with the Mattel QSOP No. 0006-3600.

The samples have been identified as:

- 1 – DVD with UV inks Digital Printing from the 2Print Machine
- 2 – CD with UV inks Silk Screen Printing
- 3 – DVD case (from V.M.)
- 4 – Sheets of 100lbs Gloss text paper including UV inks printing from KBA machine
- 5 – Sheets of 15pt board C1S including UV inks printing from our KBA machine
- 6 – Sheets of 100lbs text paper including inks printing from vendor (T.S.)
- 7 – Sheets (glued) of 15pt board C1S including inks printing from vendor (T.S.)
- 8 – Clear jewel box with clear tray, clear CD digitray, and clear DVD digitray

The submitted samples underwent the following analysis:

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**Cambridge Materials Testing Limited**

Per Steve Brown QUALITY ASSURANCE

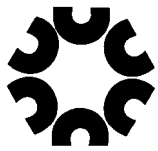
Per Killer TECHNICIAN



## 1.1 TEST PERFORMED

- 1-** Soluble Heavy Metals in Surface Coatings (Mattel QSOP No. 0006-3600), using an Inductively Coupled Argon Plasma (ICAP) Spectrometer as per ASTM D1976 (modified) to determine the presence and relative concentration of **soluble** Antimony (Sb), Arsenic (As), Barium (Ba), Cadmium (Cd), Chromium (Cr), Lead (Pb), and Selenium (Se). Compliance of Canadian Hazardous Product Act R.S., c. H-3, Schedule I, Part I, item 9 and ASTM F963 Section 4.3.5
- 2-** Total Heavy Metals in Surface Coatings (Mattel QSOP No. 0006-3600), using an Inductively Coupled Argon Plasma (ICAP) Spectrometer as per ASTM D1976 (modified) to determine the presence and relative concentration of **total** Lead (Pb) and Mercury (Hg). Compliance of Canadian Hazardous Product Act R.S., c. H-3, Schedule I, Part I, item 9 and ASTM F963 Section 4.3.5
- 3-** Soluble Heavy Metals in Non - Surface Coatings (Mattel QSOP No. 0006-3600), using an Inductively Coupled Argon Plasma (ICAP) Spectrometer as per ASTM D1976 (modified) to determine the presence and relative concentration of **soluble** Antimony (Sb), Arsenic (As), Barium (Ba), Cadmium (Cd), Chromium (Cr), Lead (Pb), Mercury (Hg) and Selenium (Se). Compliance of Canadian Hazardous Product Act R.S., c. H-3, Schedule I, Part I, item 9 and ASTM F963 Section 4.3.5
- 4-** Total Heavy Metals in Non - Surface Coatings (Mattel QSOP No. 0006-3600), using an Inductively Coupled Argon Plasma (ICAP) Spectrometer as per ASTM D1976 (modified) to determine the presence and relative concentration of **total** Cadmium (Cd) and Lead (Pb). Compliance of Canadian Hazardous Product Act R.S., c. H-3, Schedule I, Part I, item 9 and ASTM F963 Section 4.3.5

The following table details the materials identification and the obtained results.



2.0 RESULTS OF ANALYSIS

2.1 Soluble Heavy Metals Analysis in Surface Coatings and Non-Surface Coatings

<u>Acceptance Criteria (max)</u>		<u>As</u>	<u>Ba</u>	<u>Cd</u>	<u>Cr</u>	<u>Hg</u>	<u>Pb</u>	<u>Sb</u>	<u>Se</u>	<b>Compliance</b>
		1000	1000	1000	-	-	-	1000	1000	<b>CHPA R.S., c. H-3, Schedule I, Part I, Item 9</b>
		25	500	75	60	60	90	60	300	<b>ASTM F963</b>
<u>Sample ID</u>										
1a	DVD with UV inks Digital Printing from the 2Print Machine - substrate	<1	<1	<1	<1	<1	<1	<1	<1	Pass
1b	DVD with UV inks Digital Printing from the 2Print Machine - coating	<1	<1	<1	<1	-	<1	<1	<1	Pass
2a	CD with UV inks Silk Screen Printing - substrate	<1	<1	<1	<1	<1	<1	<1	<1	Pass
2b	CD with UV inks Silk Screen Printing - coating	<1	<1	<1	<1	-	<1	<1	<1	Pass
3a	DVD case (from V.M.) - substrate	<1	<1	<1	<1	<1	<1	<1	<1	Pass
3b	DVD case (from V.M.) - coating	<1	<1	<1	<1	-	<1	<1	<1	Pass
4	Gloss text paper including UV inks printing from KBA machine - composite	<1	3	<1	<1	<1	<1	<1	<1	Pass
5a	15pt board C1S including UV inks printing from our KBA machine - substrate	<1	11	<1	<1	<1	<1	<1	<1	Pass
5b	15pt board C1S including UV inks printing from our KBA machine - coating	<1	5	<1	<1	-	<1	<1	<1	Pass
6	Text paper including inks printing from vendor (T.S.) - composite	<1	<1	<1	<1	<1	<1	<1	<1	Pass
7	15pt board C1S including inks printing from vendor (T.S.) - composite	<1	2	<1	<1	<1	<1	<1	<1	Pass
8a	Clear jewel box with clear tray	<1	<1	<1	<1	<1	<1	<1	<1	Pass
8b	Clear CD digitray	<1	<1	<1	<1	<1	<1	<1	<1	Pass
8c	Clear DVD digitray	<1	<1	<1	<1	<1	<1	<1	<1	Pass



**RESULTS CONTINUE**

**2.2 Total Heavy Metals Analysis in Surface Coatings and Non-Surface Coatings**

Acceptance Criteria (max)		Cd	Hg	Pb	Compliant
		40 (for non-surface coatings only)	10 (for surface coatings only)	90 (for surface coatings)  300 (for non-surface coatings)	CHPA R.S., c. H-3, Schedule I, Part I, Item 9
		40 (for surface coatings)	-	90 (for surface coatings)	ASTM F963
Sample ID					
1a	DVD with UV inks Digital Printing from the 2Print Machine - substrate	<1	-	<10	Pass
1b	DVD with UV inks Digital Printing from the 2Print Machine - coating	-	<1	<10	Pass
2a	CD with UV inks Silk Screen Printing - substrate	<1	-	<10	Pass
2b	CD with UV inks Silk Screen Printing - coating	-	<1	<10	Pass
3a	DVD case (from V.M.) - substrate	<1	-	<10	Pass
3b	DVD case (from V.M.) - coating	-	<1	<10	Pass
4	Gloss text paper including UV inks printing from KBA machine - composite	<1	<1	<10	Pass
5a	15pt board C1S including UV inks printing from our KBA machine - substrate	<1	-	<10	Pass
5b	15pt board C1S including UV inks printing from our KBA machine - coating	-	<1	<10	Pass
6	Text paper including inks printing from vendor (T.S.) - composite	<1	<1	<10	Pass
7	15pt board C1S including inks printing from vendor (T.S.) - composite	<1	<1	<10	Pass
8a	Clear jewel box with clear tray	<1	-	<10	Pass
8b	Clear CD digitray	<1	-	<10	Pass
8c	Clear DVD digitray	<1	-	<10	Pass