



Hong Kong Government Recognized Service Supplier
Approved Laboratory of The Woolmark Company

Members of :

American National Standards Institute
American Society for Testing and Materials
British Standards Institute

Hong Kong Association for Testing, Inspection and Certification Limited
Hong Kong Toys Council

TEST REPORT

NUMBER: HKGH00946461

APPLICANT: YIU WING (HONG KONG) INDUSTRIAL LIMITED DATE: Dec 28, 2009
RM 11 3/F SHING WIN FTY BLDG
15-17 SHING YIP ST
KWUN TONG KLN
HK
ATTN: MR JIMMY CHENG

SAMPLE DESCRIPTION:

ONE (1) SUBMITTED SAMPLE SAID TO BE **LDPE PLASTIC BAG.**

TESTS CONDUCTED:

AS REQUESTED BY THE APPLICANT, FOR DETAILS REFER TO ATTACHED PAGE(S)

CONCLUSION:

<u>TESTED SAMPLES</u>	<u>STANDARD</u>	<u>RESULT</u>
SUBMITTED SAMPLE	MODEL TOXICS IN PACKAGING LEGISLATION (PACKAGING MATERIALS) FOR TOXIC ELEMENTS TEST	PASS
	94/62/EEC AND AMENDMENT 2004/12/EC DIRECTIVE (PACKAGING WASTE) FOR TOXIC ELEMENTS TEST	PASS
	U.S. 21 CFR F.D.A. REGULATION PART 177.1520 CLAUSES (c) (2.1) ON POLYETHYLENE	PASS

TO BE CONTINUED

FOR AND ON BEHALF OF :
INTERTEK TESTING SERVICES HK LTD.

KAREN S.C. NG
GENERAL MANAGER





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CONCLUSION :

<u>TESTED SAMPLE</u>	<u>STANDARD - EUROPEAN ECONOMIC COMMUNITY</u>	<u>RESULT</u>
<u>SUBMITTED SAMPLE</u>	<u>2002/72/EC AND 2007/19/EC ON TOTAL MIGRATION</u>	<u>PASS</u>
	USE CONDITION :	
	TEMPERATURE BETWEEN 70°C AND 100°C FOR LESS THAN 15 MINUTES AND ROOM TEMPERATURE OR BELOW STORAGE FOR UNSPECIFIED PERIOD.	

FOOD SIMULANTS :

- 3% (w/v) ACETIC ACID
- 10% (v/v) ETHANOL
- RECTIFIED OLIVE OIL

LABELLING RECOMMENDATION :

FOOD TYPE : ALL AQUEOUS AND ACIDIC FOODS AND ALCOHOLIC FOODS AND FATTY FOODS.

USE CONDITION : TEMPERATURE BETWEEN 70°C AND 100°C FOR LESS THAN 15 MINUTES AND ROOM TEMPERATURE OR BELOW STORAGE FOR UNSPECIFIED PERIOD.

<u>TESTED SAMPLE</u>	<u>STANDARD</u>	<u>RESULT</u>
<u>SUBMITTED SAMPLE</u>	WITH REFERENCE TO TEST METHOD OF IEC 62321 EDITION 1.0 : 2008 AND MAXIMUM CONCENTRATION LIMITS QUOTED FROM ROHS DIRECTIVES 2002/95/EC AND AMENDMENT 2005/618/EC	<u>PASS</u>

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TESTS CONDUCTED

1 TOXIC ELEMENTS ANALYSIS

AS PER MODEL TOXICS IN PACKAGING LEGISLATION REQUIREMENT OF PACKAGING AND PACKAGING COMPONENTS, ACID DIGESTION METHOD WAS USED AND TOXIC ELEMENTS CONTENTS WERE DETERMINED BY INDUCTIVELY COUPLED ARGON PLASMA SPECTROMETRY, AND HEXAVALENT CHROMIUM CONTENT WAS DETERMINED BY UV-VISIBLE SPECTROPHOTOMETRY.

	<u>RESULT IN ppm</u>	<u>LIMIT (ppm)</u>
LEAD (Pb)	<5	--
CADMIUM (Cd)	<5	--
MERCURY (Hg)	<5	--
CHROMIUM VI (Cr (VI))	<1	--
SUM OF Pb, Cd, Hg and Cr (VI)	<16	100

ppm = PARTS PER MILLION
< = LESS THAN

DATE SAMPLE RECEIVED : DEC 08, 2009
TESTING PERIOD : DEC 08, 2009 TO DEC 11, 2009

2 TOXIC ELEMENTS ANALYSIS

AS PER 94/62/EEC AND AMENDMENT 2004/12/EC DIRECTIVE ON PACKAGING AND PACKAGING WASTE, ACID DIGESTION METHOD WAS USED AND TOXIC ELEMENTS CONTENTS WERE DETERMINED BY INDUCTIVELY COUPLED ARGON PLASMA SPECTROMETRY, AND HEXAVALENT CHROMIUM CONTENT WAS DETERMINED BY UV-VISIBLE SPECTROPHOTOMETRY.

	<u>RESULT IN ppm</u>	<u>LIMIT ppm</u>
LEAD (Pb)	<5	--
CADMIUM (Cd)	<5	--
MERCURY (Hg)	<5	--
CHROMIUM VI (Cr (VI))	<1	--
SUM OF Pb, Cd, Hg and Cr (VI)	<16	100

ppm = PARTS PER MILLION
< = LESS THAN

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TESTS CONDUCTED

3 SVHC SCREENING TEST

BY A COMBINATION OF X-RAY FLUORESCENCE SPECTROSCOPY, INDUCTIVELY COUPLED ARGON PLASMA SPECTROMETRY AND GAS CHROMATOGRAPHIC - MASS SPECTROMETRY TECHNIQUES.

(A) RESULTS OF 15 SVHC

<u>CHEMICAL SUBSTANCES</u>	<u>CAS NO.</u>	<u>RESULTS</u>
ANTHRACENE	120-12-7	<0.02% (w/w)
4,4'-DIAMINODIPHENYLMETHANE	101-77-9	<0.02% (w/w)
DIBUTYL PHTHALATE (DBP)	84-74-2	<0.02% (w/w)
COBALT DICHLORIDE +	7646-79-9	<0.02% (w/w)
DIARSENIC PENTAOXIDE +	1303-28-2	<0.02% (w/w)
DIARSENIC TRIOXIDE +	1327-53-3	<0.02% (w/w)
SODIUM DICHROMATE +	7789-12-0 10588-01-9	<0.02% (w/w)
5-TERT-BUTYL-2,4,6-TRINITRO-m-XYLENE (MUSK XYLENE)	81-15-2	<0.02% (w/w)
BIS (2-ETHYL(HEXYL) PHTHALATE) (DEHP)	117-81-7	<0.02% (w/w)
HEXABROMOCYCLODODECANE (HBCDD) AND ALL MAJOR DIASTEREOISOMERS IDENTIFIED (α -HBCDD, β -HBCDD, γ -HBCDD)	25637-99-4 and 3194-55-6 (134237-51-7, 134237-50-6, 134237-52-8)	<0.02% (w/w)
SHORT CHAIN CHLORINATED PARAFFIN (C10-C13)	85535-84-8	<0.02% (w/w)
BIS (TRIBUTYL TIN) OXIDE +	56-35-9	<0.02% (w/w)
LEAD HYDROGEN ARSENATE +	7784-40-9	<0.02% (w/w)
TRIETHYL ARSENATE +	15606-95-8	<0.02% (w/w)
BENZYL BUTYL PHTHALATE (BBP)	85-68-7	<0.02% (w/w)



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(B) RESULTS OF 15 PROPOSED SVHC

<u>CHEMICAL SUBSTANCES</u>	<u>CAS NO.</u>	<u>RESULTS</u>
ANTHRACENE OIL	90640-80-5	<0.02% (w/w)
ANTHRACENE OIL, ANTHRACENE PASTE, DISTN. LIGHTS	91995-17-4	<0.02% (w/w)
ANTHRACENE OIL, ANTHRACENE PASTE, ANTHRACENE FRACTION	91995-15-2	<0.02% (w/w)
ANTHRACENE OIL, ANTHRACENE-LOW	90640-82-7	<0.02% (w/w)
ANTHRACENE OIL, ANTHRACENE PASTE	90640-81-6	<0.02% (w/w)
DIISOBUTYL PHTHALATE (DIBP)	84-69-5	<0.02% (w/w)
2,4-DINITROTOLUENE	121-14-2	<0.02% (w/w)
LEAD CHROMATE +	7758-97-6	<0.02% (w/w)
LEAD CHROMATE MOLYBDATE SULFATE RED + (C.I. PIGMENT RED 104)	12656-85-8	<0.02% (w/w)
LEAD SULFOCHROMATE YELLOW + (C.I. PIGMENT YELLOW 34)	1344-37-2	<0.02% (w/w)
ACRYLAMIDE	79-06-1	<0.02% (w/w)
COAL TAR PITCH, HIGH TEMPERATURE	65996-93-2	<0.02% (w/w)
TRIS(2-CHLOROETHYL)PHOSPHATE (TCEP)	115-96-8	<0.02% (w/w)
ALUMINOSILICATE, REFRACTORY CERAMIC FIBRES +	INDEX NUMBER 650-017-00-8	<0.1% (w/w)
ZIRCONIA ALUMINOSILICATE, REFRACTORY CERAMIC FIBRES +	INDEX NUMBER 650-017-00-8	<0.02% (w/w)

REMARK : SVHC = SUBSTANCE OF VERY HIGH CONCERN
< = LESS THAN
+ = DETERMINATION WAS BASED ON ELEMENTAL ANALYSIS.

REACH REQUIREMENT: AS PER ARTICLE 33 OF THE REACH REGULATION (EC1907/2006), RECIPIENTS OF PRODUCT MUST BE PROVIDED WITH INFORMATION OF SAFE USE IF ANY OF THE TESTED SUBSTANCES (SVHC) EXCEEDED 0.1%(w/w). A PRODUCT MEETS THE REQUIREMENT OF ARTICLE 33(1) BY DEFAULT WHEN NO SVHC EXCEEDS 0.1%(w/w).

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4 BUTYLATED HYDROXYTOLUENE (BHT) CONTENT

WITH REFERENCE TO ASTM D4275-02, BY GAS CHROMATOGRAPHIC (GC) ANALYSIS.

RESULT : LESS THAN 1 ppm

REMARK : ppm = PARTS PER MILLION = mg/kg
DETECTION LIMIT = 1 ppm

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5 MIGRATION TEST FOR PLASTIC FOOD CONTACTING MATERIALS/ARTICLES

AS PER EEC COMMISSION DIRECTIVE 2002/72/EC AND 2007/19/EC, SELECTION OF TEST CONDITION & FOOD SIMULANTS BY 82/711/EEC, 85/572/EEC, 93/8/EEC AND 97/48/EC.

I. CONDITION OF CONTACT IN ACTUAL USE :

TEMPERATURE BETWEEN 70°C AND 100°C FOR LESS THAN 15 MINUTES AND ROOM TEMPERATURE OR BELOW STORAGE FOR UNSPECIFIED PERIOD.

II. TEST CONDITION :

<u>FOOD SIMULANTS</u>	<u>TIME</u>	<u>TEMPERATURE</u>
(A) 3% (w/v) ACETIC ACID IN AQUEOUS SOLUTION	10 DAYS	40°C
(B) 10% (v/v) ETHANOL IN AQUEOUS SOLUTION	10 DAYS	40°C
(C) RECTIFIED OLIVE OIL	10 DAYS	40°C

III. TEST RESULTS :

<u>FOOD SIMULANTS</u>	<u>RESULT (mg/dm²)</u>	<u>LIMIT (mg/dm²)</u>
(A) 3% (w/v) ACETIC ACID IN AQUEOUS SOLUTION	<1	10
(B) 10% (v/v) ETHANOL IN AQUEOUS SOLUTION	<1	10
(C) RECTIFIED OLIVE OIL	<1	10

REMARK : < = LESS THAN

THE LIMIT OF 10mg/dm² WAS QUOTED FOR SAMPLES THAT ARE SHEET, FILM OR OTHER MATERIAL OR ARTICLES WHICH CANNOT BE FILLED OR FOR WHICH IT IS IMPRACTICABLE TO ESTIMATE THE RELATIONSHIP BETWEEN THE SURFACE AREA OF SUCH MATERIAL OR ARTICLE AND THE QUANTITY OF FOOD IN CONTACT THEREWITH.

DATE SAMPLE RECEIVED : DEC 08, 2009

TESTING PERIOD : DEC 08, 2009 TO DEC 22, 2009





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6 TEST FOR F.D.A. REGULATION ON POLYETHYLENE

AS PER THE U.S. 21 CFR FOOD AND DRUG ADMINISTRATION PART 177.1520 CLAUSES
(c) (2.1) AND (d) WITH MODIFICATION ON DENSITY.

	<u>RESULT</u>	<u>LIMIT</u>
(A) DENSITY (BY SINK-FLOAT METHOD)	0.92	0.85 - 1.00
(B) MAXIMUM EXTRACTABLE FRACTION IN N-HEXANE % (w/w)	1.8	5.5
(C) MAXIMUM EXTRACTABLE FRACTION IN XYLENE % (w/w)	5.3	11.3

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7 RoHS CHEMICAL TEST

(A) TEST RESULT SUMMARY:

TESTING ITEM	RESULT
CADMIUM (Cd) CONTENT (mg/kg)	ND (<2)
LEAD (Pb) CONTENT (mg/kg)	ND (<2)
MERCURY (Hg) CONTENT (mg/kg)	ND (<2)
CHROMIUM (VI) (Cr ⁶⁺) CONTENT (mg/kg) (FOR NON-METAL)	ND (<1)
POLYBROMINATED BIPHENYLS (PBBs) (mg/kg)	
MONOBROMOBIPHENYL (MonoBB)	ND (<5)
DIBROMOBIPHENYL (DiBB)	ND (<5)
TRIBROMOBIPHENYL (TriBB)	ND (<5)
TETRABROMOBIPHENYL (TetraBB)	ND (<5)
PENTABROMOBIPHENYL (PentaBB)	ND (<5)
HEXABROMOBIPHENYL (HexaBB)	ND (<5)
HEPTABROMOBIPHENYL (HeptaBB)	ND (<5)
OCTABROMOBIPHENYL (OctaBB)	ND (<5)
NONABROMOBIPHENYL (NonaBB)	ND (<5)
DECABROMOBIPHENYL (DecaBB)	ND (<5)
POLYBROMINATED DIPHENYL ETHERS (PBDEs) (mg/kg)	
MONOBROMODIPHENYL ETHER (MonoBDE)	ND (<5)
DIBROMODIPHENYL ETHER (DiBDE)	ND (<5)
TRIBROMODIPHENYL ETHER (TriBDE)	ND (<5)
TETRABROMODIPHENYL ETHER (TetraBDE)	ND (<5)
PENTABROMODIPHENYL ETHER (PentaBDE)	ND (<5)
HEXABROMODIPHENYL ETHER (HexaBDE)	ND (<5)
HEPTABROMODIPHENYL ETHER (HeptaBDE)	ND (<5)
OCTABROMODIPHENYL ETHER (OctaBDE)	ND (<5)
NONABROMODIPHENYL ETHER (NonaBDE)	ND (<5)
DECABROMODIPHENYL ETHER (DecaBDE)	ND (<5)

mg/kg = MILLIGRAM PER KILOGRAM = ppm
 < = LESS THAN
 ND = NOT DETECTED



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(B) RoHS REQUIREMENT:

RESTRICTED SUBSTANCES	LIMITS
CADMIUM (Cd)	0.01% (100 ppm)
LEAD (Pb)	0.1% (1000 ppm)
MERCURY (Hg)	0.1% (1000 ppm)
CHROMIUM (VI) (Cr ⁶⁺)	0.1% (1000 ppm)
POLYBROMINATED BIPHENYLS (PBBs)	0.1% (1000 ppm)
POLYBROMINATED DIPHENYL EHTERS (PBDEs)	0.1% (1000 ppm)

THE ABOVE LIMITS WERE QUOTED FROM 2002/95/EC AND AMENDMENT 2005/618/EC FOR HOMOGENEOUS MATERIAL.

(C) TEST METHOD:

TESTING ITEM	TESTING METHOD	REPORTING LIMIT
CADMIUM (Cd) CONTENT	WITH REFERENCE TO IEC 62321 EDITION 1.0 : 2008, BY ACID DIGESTION AND DETERMINED BY ICP-OES	2 mg/kg
LEAD (Pb) CONTENT	WITH REFERENCE TO IEC 62321 EDITION 1.0 : 2008, BY ACID DIGESTION AND DETERMINED BY ICP - OES	2 mg/kg
MERCURY (Hg) CONTENT	WITH REFERENCE TO IEC 62321 EDITION 1.0 : 2008, BY ACID DIGESTION AND DETERMINED BY ICP - OES	2 mg/kg
CHROMIUM (VI) (Cr ⁶⁺) CONTENT (FOR NON-METAL)	WITH REFERENCE TO IEC 62321 EDITION 1.0 : 2008, BY ALKALINE DIGESTION AND DETERMINED BY UV-VIS SPECTROPHOTOMETER	1 mg/kg
POLYBROMINATED BIPHENYLS (PBBs) & POLYBROMINATED DIPHENYL ETHERS (PBDEs)	WITH REFERENCE TO IEC 62321 EDITION 1.0 : 2008, BY SOLVENT EXTRACTION AND DETERMINED BY GC/MS AND FURTHER HPLC CONFIRMATION WHEN NECESSARY	5 mg/kg

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END OF REPORT

