



TEST REPORT

NUMBER : DELC09000492 REV-1

DATE : 03RD MARCH, 2009

APPLICANT : **AVI GLOBAL PLAST PRIVATE. LIMITED.**
SURVERY NO. 266/4,5,6, 269/4, 268/1,
COASTAL HIGHWAY, VILLAGE DUNETHA,
DAMAN -396210, INDIA

ATTN : **Mr. VENKATESH HONNATI**

SAMPLE DESCRIPTION: THE SUBMITETD SAMPLE SAID TO BE CALENDERED RIGID PVC A4 SHEETS IN COLOUR MARKED AS CLEAR TRANSPARENT.

COLOUR	: CLEAR TRANSPARENT
BASE MATERIAL / RAW MATERIAL	: --
RAW MATERIAL SUPPLIER	: --
ARTICLE NO./PART NO	: --
GRADE	: AVIFOOD-FOOD GRADE FOR THERMOFORMING/VACCUUM FORMING
BUYER'S NAME	: --
MANUFACTURER'S NAME	: --
SAMPLE RECEIVED	: 17 TH JANUARY, 2009

 TESTS CONDUCTED: AS REQUESTED BY THE APPLICANT. FOR DETAILS REFER TO ATTACHED PAGE (S).

 REMARK : THE TEST REPORT NO. DELC09000492 DATED 24TH FEBRUARY, 2009 HAS BEEN REVISED TO CHANGE APPLICANT'S REUQUEST AS PER APPLICANT'S REQUEST.

PREPARED & CHECKED BY :
for INTERTEK TESTING SERVICES, INDIA

PRAVIN MORE
ASST. MANAGER-CHEMICAL & HARDLINE LAB



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CONCLUSION :

<u>TESTED SAMPLE</u>	<u>STANDARD</u>	<u>RESULT</u>
THE SUBMITTED SAMPLE	SPECIFIC HEAVY METALS CONTENT i.e. LEAD, CADMIUM, MERCURY AND CHROMIUM VI & FLAME RETARDANTS (PBB & PBDEs) – RoHS TEST	SEE TEST CONDUCTED
	PACKAGING MATERIAL EU PACKAGING (94/62/EC DIRECTIVE)	SEE TEST CONDUCTED
	PHTHALATE TEST - AS PER EN 14372 :2004	PASS
	PVC TEST	SEE TEST CONDUCTED
	VINYL CHLORIDE MONOMER (VCM) CONTENT - AS PER APPLICANT'S REQUEST.	SEE TEST CONDUCTED
	MIGRAGION TEST FOR PLASTIC FOOD CONTACTION MATERIALS/ARTICLES -AS PER EUROPEAN ECONOMIC COMMUNITY 2002/72/EC	PASS
	DETECTION OF ASBESTOS – AS PER APPLICANT'S REUQUEST	SEE TEST CONDUCTED

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TEST CONDUCTED:

1. RoHS TEST :

A) TEST RESULTS SUMMARY OF HEAVY METALS FOR RoHS DIRECTIVE 2002/95/EC:

TESTING ITEM	RESULTS
CADMIUM (Cd) CONTENT IN PPM	ND(<2)
LEAD (Pb) CONTENT IN PPM	ND(<2)
MERCURY (Hg) CONTENT IN PPM	ND(<2)
CHROMIUM (VI) CONTENT IN PPM (BY SPOT TEST ON METAL)	-
CHROMIUM (VI) CONTENT (BY BOILING WATER EXTRACTION ON METAL) (mg/kg with 50 cm ² in Testing Solution)	-
CHROMIUM (VI) CONTENT (BY ALKALINE DIGESTION ON NON-METAL IN PPM)	ND(<2)

Remark : ppm = PART PER MILION < = LESS THAN ND = NOT DETECTED

B) TEST METHOD:

TESTING ITEM	TESTING METHOD	REPORTING LIMIT
CADMIUM (Cd) CONTENT	WITH REFERENCE TO IEC 62321 – 111/54/CDV, BY ACID DIGESTION AND DETERMINED BY AAS/ICP-OES	2 ppm
LEAD (Pb) CONTENT	WITH REFERENCE TO IEC 62321 – 111/54/CDV, BY ACID DIGESTION AND DETERMINED BY AAS/ICP-OES	2 ppm
MERCURY (Hg) CONTENT	WITH REFERENCE TO IEC 62321 – 111/54/CDV, BY ACID DIGESTION AND DETERMINED BY AAS/ICP-OES	2 ppm
CHROMIUM (VI) CONTENT (FOR METAL)	WITH REFERENCE TO IEC 62321 – 111/54/CDV, BY SPOT TEST.	PRESENT / ABSENT
CHROMIUM (VI) CONTENT (FOR METAL)	WITH REFERENCE TO IEC 62321 – 111/54/CDV, (BY BOILING WATER EXTRACTION AND DETERMINED BY UV-VIS SPECTROPHOTOMETER)	0.02 mg/kg with 50 cm ² (IN TESTING SOLUTION)
CHROMIUM (VI) CONTENT (FOR NON-METAL)	WITH REFERENCE TO IEC 62321 – 111/54/CDV, BY ALKALINE DIGESTION AND DETERMINED BY UV-VIS SPECTROPHOTOMETER	2 ppm

NOTE : TESTS WERE CONDUCTED FOR Cr +6 WITH REFERENCE TO 111/54/CDV VERSION 2006-05-05 WHICH IS STILL A DRAFT METHOD AND SUBJECT TO FUTURE CHANGES PRIOR TO PUBLICATION.

C) RoHS REQUIREMENT :

RESTRICTED SUBSTANCES	LIMITS
CADMIUM (Cd) CONTENT	100 ppm
LEAD (Pb) CONTENT	1000 ppm (40000 ppm FOR BRASS/COPPER MATERIAL) (3500 ppm FOR STEEL) (4000 ppm FOR ALUMINIUM)
MERCURY (Hg) CONTENT	1000 ppm
CHROMIUM (VI) CONTENT	1000 ppm

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TESTS CONDUCTED:

A) TEST RESULT SUMMARY OF BROMINATED FLAME RETARDANTS FOR RoHS DIRECTIVE 2002/95/EC:

TESTING ITEM	RESULT IN ppm
POLYBROMINATED BIPHENYLS (PBBs) IN ppm	
MONOBROMOBIPHENYL (MonoBB)	ND(<5)
DIBROMOBIPHENYL (DiBB)	ND(<5)
TRIBROMOBIPHENYL (TriBB)	ND(<5)
TETRABROMOBIPHENYL (TetraBB)	ND(<5)
PENTABROMOBIPHENYL (PentaBB)	ND(<5)
HEXABROMOBIPHENYL (HexaBB)	ND(<5)
HEPTA BROMOBIPHENYL (HeptaBB)	ND(<5)
OCTABROMOBIPHENYL (OctaBB)	ND(<5)
NONA BROMOBIPHENYL (NonaBB)	ND(<5)
DECABROMOBIPHENYL (DecaBB)	ND(<5)
POLYBROMINATED DIPHENYL ETHERS (PBDEs) IN ppm	
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)
SUM OF NONABROMODIPHENYL ETHERS (NonaBDE)	ND(<5)
DECABROMODIPHENYL ETHER (DecaBDE)	ND(<5)

REMARK: ND = NOT DETECTED; ppm = PARTS PER MILLION; < = LESS THAN
MIN DETECTION LIMIT = 5 ppm.

B) TEST METHOD:

TESTING ITEM	TESTING METHOD	REPORTING LIMIT
POLYBROMINATED BIPHENYLS (PBB) & POLYBROMINATED DIPHENYL ETHERS (PBDE)	“WITH REFERENCE TO IEC 62321-111/95/CDV, BY SOLVENT EXTRACTION AND DETERMINED BY GC/MS AND FURTHER HPLC CONFIRMATION WHEN NECESSARY.”	5 ppm

C) RoHS REQUIREMENT:

RESTRICTED SUBSTANCES	LIMITS
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.



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TEST CONDUCTED:

2. PACKAGING MATERIAL TEST :

A) TEST RESULTS SUMMARY OF HEAVY METALS FOR PACKAGING MATERIAL DIRECTIVE 94/62/EC:

TESTING ITEM	RESULTS
CADMIUM (Cd) CONTENT IN PPM	ND(<2)
LEAD (Pb) CONTENT IN PPM	ND(<2)
MERCURY (Hg) CONTENT IN PPM	ND(<2)
CHROMIUM (VI) CONTENT IN PPM (BY SPOT TEST ON METAL)	-
CHROMIUM (VI) CONTENT (BY BOILING WATER EXTRACTION ON METAL) (mg/kg with 50 cm ² in Testing Solution)	-
CHROMIUM (VI) CONTENT (BY ALKALINE DIGESTION ON NON-METAL IN PPM)	ND(<2)

Remark : ppm = PART PER MILION < = LESS THAN ND = NOT DETECTED

B) TEST METHOD:

TESTING ITEM	TESTING METHOD	REPORTING LIMIT
CADMIUM (Cd) CONTENT	WITH REFERENCE TO IEC 62321 – 111/54/CDV, BY ACID DIGESTION AND DETERMINED BY AAS/ICP-OES	2 ppm
LEAD (Pb) CONTENT	WITH REFERENCE TO IEC 62321 – 111/54/CDV, BY ACID DIGESTION AND DETERMINED BY AAS/ICP-OES	2 ppm
MERCURY (Hg) CONTENT	WITH REFERENCE TO IEC 62321 – 111/54/CDV, BY ACID DIGESTION AND DETERMINED BY AAS/ICP-OES	2 ppm
CHROMIUM (VI) CONTENT (FOR METAL)	WITH REFERENCE TO IEC 62321 – 111/54/CDV, BY SPOT TEST.	PRESENT / ABSENT
CHROMIUM (VI) CONTENT (FOR METAL)	WITH REFERENCE TO IEC 62321 – 111/54/CDV, (BY BOILING WATER EXTRACTION AND DETERMINED BY UV-VIS SPECTROPHOTOMETER)	0.02 mg/kg with 50 cm ² (IN TESTING SOLUTION)
CHROMIUM (VI) CONTENT (FOR NON-METAL)	WITH REFERENCE TO IEC 62321 – 111/54/CDV, BY ALKALINE DIGESTION AND DETERMINED BY UV-VIS SPECTROPHOTOMETER	2 ppm

NOTE : TESTS WERE CONDUCTED FOR Cr +6 WITH REFERENCE TO 111/54/CDV VERSION 2006-05-05 WHICH IS STILL A DRAFT METHOD AND SUBJECT TO FUTURE CHANGES PRIOR TO PUBLICATION.

D) PACKAGING MATERIAL DIRECTIVE 94/62/EC REQUIREMENT :

RESTRICTED SUBSTANCES	LIMITS
CADMIUM (Cd) CONTENT	100 ppm
LEAD (Pb) CONTENT	
MERCURY (Hg) CONTENT	
CHROMIUM (VI) CONTENT	



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TEST CONDUCTED:

3. PHTHALATE CONTENT TEST :

AS PER EN 14372 :2004, BY DIETHYL ETHER EXTRACTION, FOLLOWED BY GAS CHROMATOGRAPHIC-MASS SPECTROMETRIC (GC-MS) ANALYSIS.

	<u>RESULT IN (ppm)</u>	<u>REQUIREMENT IN (ppm)</u>
DIBUTYL PHTHALATE (DBP)	<100 ppm	1000 ppm (0.1%)
DIETHYL HEXYL PHTHALATE (DEHP)	<100 ppm	
DI-(ISO-NONYL) PHTHALATE (DINP)	<100 ppm	
BENZYL BUTYL PHTHALATE (BBP)	<100 ppm	
DI-(N-OCTYL) PHTHALATE (DNOP)	<100 ppm	
DI-(ISO-DECYL) PHTHALATE (DIDP)	<100 ppm	
SUM OF SIX PHTHALATES	<100 ppm (<0.01%)	

REMARK : DETECTION LIMIT = 100 ppm
ppm = PARTS PER MILLION = mg/kg
< LESS THAN



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TEST CONDUCTED:

4. PVC TEST :

BY FTIR ANALYSIS.

TESTED SAMPLE	RESULT
THE SUBMITTED SAMPLE	PVC IS PRESENT

5. VINYL CHLORIDE MONOMER (VCM) CONTENT :

BY HEADSPACE GAS CHROMATOGRAPHIC ANALYSIS USING MASS SPECTROMETRIC DETECTOR.

<u>TESTED SAMPLE</u>	<u>RESULT IN ppm</u>
The Submitted Sample	ND

REMARK : ppm = PARTS PER MILLION = mg/kg
ND = NOT DETECTED
DETECTION LIMIT = 1ppm



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TEST CONDUCTED :

6. MIGRATION TEST FOR PLASTIC FOOD CONTACTING MATERIALS/ ARTICLES :

AS PER EEC COMMISSION DIRECTIVE 2002/72/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 20°C AND 40°C FOR LESS THAN 24 HOURS.

II. TEST CONDITION :

<u>FOOD SIMULANT</u>	<u>TIME</u>	<u>TEMPERATURE</u>
(A) DISTILLED WATER	24 HOURS	40°C
(B) 3% (W/V) ACETIC ACID IN AQUEOUS SOLUTION	24 HOURS	40°C
(C) 10% (V/V) ETHANOL IN AQUEOUS SOLUTION	24 HOURS	40°C
(D) RECTIFIED OLIVE OIL	24 HOURS	40°C

III. TEST RESULT :

<u>FOOD SIMULANT</u>	<u>RESULT (mg/dm²)</u>	<u>LIMIT (mg/dm²)</u>
(A) DISTILLED WATER	<1	10
(B) 3% (W/V) ACETIC ACID IN AQUEOUS SOLUTION	<1	10
(C) 10% (V/V) ETHANOL IN AQUEOUS SOLUTION	<1	10
(D) RECTIFIED OLIVE OIL	<1	10

REMARK : < = LESS THAN
SOLVENT & TEST CONDITION WERE SELECTED BASED ON FORESEEABLE USE CONDITION.

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TEST CONDUCTED:

7. DETECTION OF ASBESTOS :

BY FTIR ANALYSIS.

<u>TESTED SAMPLE</u>	<u>RESULT IN ppm</u>
The Submitted Sample	NO ASBESTOS WAS DETECTED

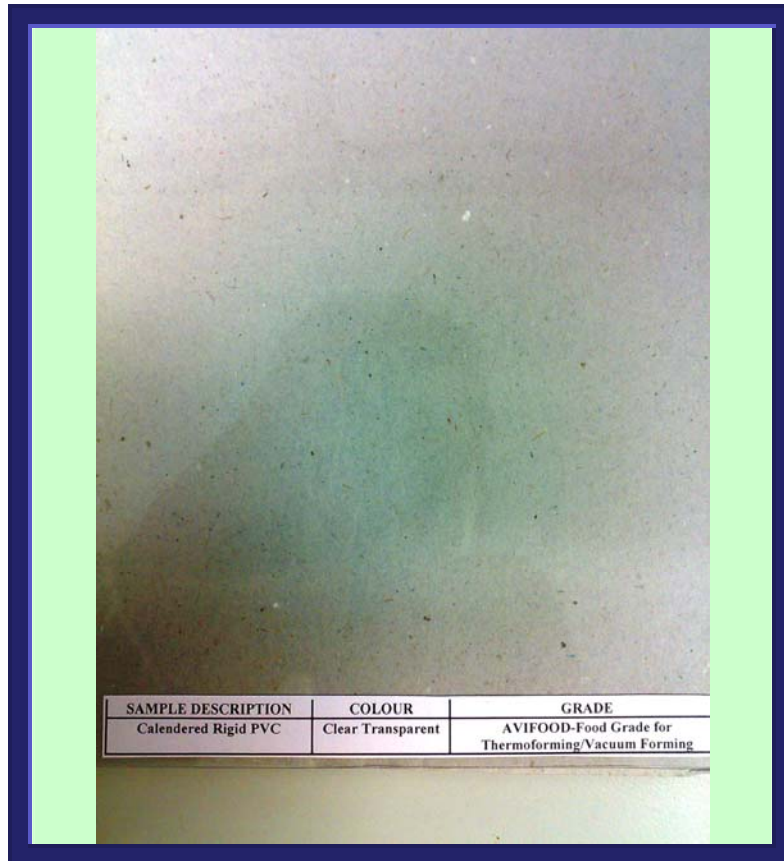


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PHOTO



END OF THE TEST REPORT#