

Report No. : CE/2009/B2158G

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The following merchandise was (were) submitted and identified by the client as:

<u>Type of Product</u>: ALUMINUM ELECTROLYTIC CAPACITORS

Style/Item No : CE32 TYPE (SMD TYPE)

Sample Received : 2009/10/15

<u>Testing Date</u> : 2009/10/15 TO 2009/10/22

<u>Test Result</u>: - Please see the next page -

*This report is combined with reports of CE/2009/B2158 & CE/2009/B2160 & CE/2009/B2161 & CE/2009/B2163 & CE/2009/B2164 & CE/2009/B2166 & CE/2009/B2169 *

Daniel Yen, M.R. / Operation Manager Signed for and on behalf of SGS TAIWAN LTD.



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Test Result

PART NAME NO.1

PART NAME NO.2 : SILVER COLORED METAL(AL-CASE (SMD TYPE))
PART NAME NO.3 : PLEASE REFER TO THE PHOTO(S) ATTACHED.(MIX ALL PARTS)(LEAD WIRE)

Date

: MIX GRAY AND SILVER COLORED PLASTIC PAPER(FOIL)

: 2009/10/22

PART NAME NO.4 : MIX BROWN AND CREAM PAPER(ELECTROLYTIC PAPER)

PART NAME NO.5 : BLACK RUBBER(RUBBER)
PART NAME NO.6 : BLACK PLASTIC(BASE)

PART NAME NO.7 : MIX YELLOW AND BROWN LIQUIE(ELECTROLYTE)
PART NAME NO.8 : TOTAL PARTS(CALCULATION FROM NO.1 TO NO.7)

						Result	:	
Test Item (s):	Unit	Method	MDL	No.1	No.2	No.3	No.4	No.5
Asbestos								
Anthrophyllite(CAS NO.017068-78-9)	**	As per NIOSH 9000 method. Analysis was performed by XRD.	-					Negative
Crocodolite(CAS NO.012001- 28-4)	**	As per NIOSH 9000 method. Analysis was performed by XRD.	-					Negative
Amosite(CAS NO.012172-73-5)	**	As per NIOSH 9000 method. Analysis was performed by XRD.	-					Negative
Tremolite(CAS NO.014567-73-8)	**	As per NIOSH 9000 method. Analysis was performed by XRD.	-					Negative
Chrysotile(CAS NO.012001-29-5)	**	As per NIOSH 9000 method. Analysis was performed by XRD.	-					Negative
Actinolite(CAS NO.013768- 00-8)	**	As per NIOSH 9000 method. Analysis was performed by XRD.	-					Negative

				Result				
Test Item (s):	Unit	Method	MDL	No.1	No.2	No.3	No.4	No.5
AZO		As per LMBG 8202-2						
4-AMINODIPHENYL (CAS NO.92-67-1)	ppm	Analysis was performed by GC/MS.	3					N.D.



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						Result	;			
Test Item (s):	Unit	Method	MDL	No.1	No.2	No.3	No.4	No.5		
BENZIDINE (CAS NO.92-87-5)	ppm	Analysis was performed by GC/MS.	3					N.D.		
4-CHLORO-O-TOLUIDINE (CAS NO.95-69-2)	ppm	Analysis was performed by GC/MS.	3					N.D.		
2-NAPHTHYLAMINE (CAS NO.91-59-8)	ppm	Analysis was performed by GC/MS.	3					N.D.		
O-AMINOAZOTOLUENE (CAS NO.97-56-3)	ppm	Analysis was performed by GC/MS.	3					N.D.		
2-AMINO-4-NITROTOLUENE (CAS NO.99-55-8)	ppm	Analysis was performed by GC/MS.	3					N.D.		
P-CHLOROANILINE (CAS NO.106-47-8)	ppm	Analysis was performed by GC/MS.	3					N.D.		
2,4-DIAMINOANISOLE (CAS NO.615-05-4)	ppm	Analysis was performed by GC/MS.	3					N.D.		
4,4- DIAMINODIPHENYLMETHA NE (CAS NO.101-77-9)	ppm	Analysis was performed by GC/MS.	3					N.D.		
3,3-DICHLOROBENZIDINE (CAS NO.91-94-1)	ppm	Analysis was performed by GC/MS.	3					N.D.		
3,3-DIMETHOXYBENZIDINE (CAS NO.119-90-4)	ppm	Analysis was performed by GC/MS.	3					N.D.		
3,3-DIMETHYLBENZIDINE (CAS NO.119-93-7)	ppm	Analysis was performed by GC/MS.	3					N.D.		
3,3-DIMETHYL-4,4- DIAMINODIPHENYLMETHA NE (CAS NO.838-88-0)	ppm	Analysis was performed by GC/MS.	3					N.D.		
P-CRESIDINE(2-METHOXY- 5-METHYLANILINE) (CAS NO.120-71-8)	ppm	Analysis was performed by GC/MS.	3					N.D.		
4,4-METHYLENE-BIS-(2- CHLORANILINE) (CAS NO.101-14-4)	ppm	Analysis was performed by GC/MS.	3					N.D.		
4,4-OXYDIANILINE (CAS NO.101-80-4)	ppm	Analysis was performed by GC/MS.	3					N.D.		



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						Result	;	
Test Item (s):	Unit	Method	MDL	No.1	No.2	No.3	No.4	No.5
4,4-THIODIANILINE (CAS NO.139-65-1)	ppm	Analysis was performed by GC/MS.	3					N.D.
O-TOLUIDINE (CAS NO.95- 53-4)	ppm	Analysis was performed by GC/MS.	3					N.D.
2,4-TOLUYLENDIAMINE (CAS NO.95-80-7)	ppm	Analysis was performed by GC/MS.	3					N.D.
2,4,5-TRIMETHYLANILINE (CAS NO.137-17-7)	ppm	Analysis was performed by GC/MS.	3					N.D.
O-ANISIDINE (CAS NO.90- 04-0)	ppm	Analysis was performed by GC/MS.	3					N.D.
P-AMINOAZOBENZENE (CAS NO.60-09-3)	ppm	Analysis was performed by GC/MS.	3					N.D.

				Result				
Test Item (s):	Unit	Method	MDL	No.1	No.2	No.3	No.4	No.5
Chlorinated Paraffin (C10~C13) (CAS NO:010871- 26-2)		Analysis was performed by GC/MS.	0.01					N.D.

						Result	;	
Test Item (s):	Unit	Method	MDL	No.1	No.2	No.3	No.4	No.5
PBBs(Polybrominated biphenyls)(CAS NO:67774- 32-7)	%	With reference to USEPA3540 or USEPA3550. Analysis was performed by HPLC/DAD, LC/MS or GC/MS. (prohibited by 2002/95/EC (RoHS), 83/264/EEC and 76/769/EEC)	0.0005					N.D.
PBBEs(PBDEs)(Polybrominat ed biphenyl ethers)	%	With reference to USEPA3540 or USEPA3550. Analysis was performed by HPLC/DAD, LC/MS or GC/MS. (prohibited by 2002/95/EC (RoHS), 83/264/EEC and 76/769/EEC)	0.0005					N.D.



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				Result				
Test Item (s):	Unit	Method	MDL	No.1	No.2	No.3	No.4	No.5
Polychlorinated Naphthalene		Analysis was performed by GC/MS.	5					N.D.

				Result				
Test Item (s):	Unit	Method	MDL	No.1	No.2	No.3	No.4	No.5
PVC free(CAS No:9002-86-2)		Analysis was performed by FTIR/ATR and Pyro-GC/MS.	-					Negative

						Result		
Test Item (s):	Unit	Method	MDL	No.1	No.2	No.3	No.4	No.5
Chromium VI (Cr+6)	ppm	As per US EPA 7196A and US EPA 3060A.	2	N.D.	N.D.	N.D.	N.D.	N.D.
Cadmium (Cd)	ppm	ICP-AES after as per EN 1122, method B:2001 or other acid digestion.	2	N.D.	N.D.	N.D.	N.D.	N.D.
Mercury (Hg)	ppm	ICP-AES after as per US EPA 3052 or other acid digestion.	2	N.D.	N.D.	N.D.	N.D.	N.D.
Lead (Pb)	ppm	ICP-AES after as per US EPA 3050B or other acid digestion.	2	N.D.	N.D.	89.4	N.D.	N.D.
Nickel (Ni)	ppm	ICP-AES after as per US EPA 3050B or other acid digestion.	2	N.D.	N.D.	50.1		N.D.

				Result				
Test Item (s):	Unit	Method	MDL	No.1	No.2	No.3	No.4	No.5
Organic-tin coumpounds								
Triphenyl Tin(TPT)(CAS NO:000668-34-8)	ppm	With reference to 83/677/EEC & DIN 38407. Analysis was performed by GC/FPD.	0.03					
Tributyl Tin(TBT)	ppm	With reference to 83/677/EEC & DIN 38407. Analysis was performed by GC/FPD.	0.03					



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						Result	
Test Item (s):	Unit	Method	MDL	No.6	No.7	No.8	
Asbestos							
Anthrophyllite(CAS NO.017068-78-9)	**	As per NIOSH 9000 method. Analysis was performed by XRD.	-	Negative			
Crocodolite(CAS NO.012001- 28-4)	**	As per NIOSH 9000 method. Analysis was performed by XRD.	-	Negative			
Amosite(CAS NO.012172-73-5)	**	As per NIOSH 9000 method. Analysis was performed by XRD.	-	Negative			
Tremolite(CAS NO.014567-73-8)	**	As per NIOSH 9000 method. Analysis was performed by XRD.	-	Negative			
Chrysotile(CAS NO.012001- 29-5)	**	As per NIOSH 9000 method. Analysis was performed by XRD.	-	Negative			
Actinolite(CAS NO.013768- 00-8)	**	As per NIOSH 9000 method. Analysis was performed by XRD.	-	Negative			

						Result	
Test Item (s):	Unit	Method	MDL	No.6	No.7	No.8	
AZO		As per LMBG 8202-2					
4-AMINODIPHENYL (CAS NO.92-67-1)	ppm	Analysis was performed by GC/MS.	3	N.D.			
BENZIDINE (CAS NO.92-87-5)	ppm	Analysis was performed by GC/MS.	3	N.D.			
4-CHLORO-O-TOLUIDINE (CAS NO.95-69-2)	ppm	Analysis was performed by GC/MS.	3	N.D.			
2-NAPHTHYLAMINE (CAS NO.91-59-8)	ppm	Analysis was performed by GC/MS.	3	N.D.			
O-AMINOAZOTOLUENE (CAS NO.97-56-3)	ppm	Analysis was performed by GC/MS.	3	N.D.			
2-AMINO-4-NITROTOLUENE (CAS NO.99-55-8)	ppm	Analysis was performed by GC/MS.	3	N.D.			



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				Result				
Test Item (s):	Unit	Method	MDL	No.6	No.7	No.8		
P-CHLOROANILINE (CAS NO.106-47-8)	ppm	Analysis was performed by GC/MS.	3	N.D.				
2,4-DIAMINOANISOLE (CAS NO.615-05-4)	ppm	Analysis was performed by GC/MS.	3	N.D.				
4,4- DIAMINODIPHENYLMETHA NE (CAS NO.101-77-9)	ppm	Analysis was performed by GC/MS.	3	N.D.				
3,3-DICHLOROBENZIDINE (CAS NO.91-94-1)	ppm	Analysis was performed by GC/MS.	3	N.D.				
3,3-DIMETHOXYBENZIDINE (CAS NO.119-90-4)	ppm	Analysis was performed by GC/MS.	3	N.D.				
3,3-DIMETHYLBENZIDINE (CAS NO.119-93-7)	ppm	Analysis was performed by GC/MS.	3	N.D.				
3,3-DIMETHYL-4,4- DIAMINODIPHENYLMETHA NE (CAS NO.838-88-0)	ppm	Analysis was performed by GC/MS.	3	N.D.				
P-CRESIDINE(2-METHOXY- 5-METHYLANILINE) (CAS NO.120-71-8)	ppm	Analysis was performed by GC/MS.	3	N.D.				
4,4-METHYLENE-BIS-(2- CHLORANILINE) (CAS NO.101-14-4)	ppm	Analysis was performed by GC/MS.	3	N.D.				
4,4-OXYDIANILINE (CAS NO.101-80-4)	ppm	Analysis was performed by GC/MS.	3	N.D.				
4,4-THIODIANILINE (CAS NO.139-65-1)	ppm	Analysis was performed by GC/MS.	3	N.D.				
O-TOLUIDINE (CAS NO.95- 53-4)	ppm	Analysis was performed by GC/MS.	3	N.D.				
2,4-TOLUYLENDIAMINE (CAS NO.95-80-7)	ppm	Analysis was performed by GC/MS.	3	N.D.				
2,4,5-TRIMETHYLANILINE (CAS NO.137-17-7)	ppm	Analysis was performed by GC/MS.	3	N.D.				
O-ANISIDINE (CAS NO.90- 04-0)	ppm	Analysis was performed by GC/MS.	3	N.D.				
P-AMINOAZOBENZENE (CAS NO.60-09-3)	ppm	Analysis was performed by GC/MS.	3	N.D.				



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				Result				
Test Item (s):	Unit	Method	MDL	No.6	No.7	No.8		
Chlorinated Paraffin (C10~C13) (CAS NO:010871- 26-2)		Analysis was performed by GC/MS.	0.01	N.D.				

				Result				
Test Item (s):	Unit	Method	MDL	No.6	No.7	No.8		
PBBs(Polybrominated biphenyls)(CAS NO:67774- 32-7)	%	With reference to USEPA3540 or USEPA3550. Analysis was performed by HPLC/DAD, LC/MS or GC/MS. (prohibited by 2002/95/EC (RoHS), 83/264/EEC and 76/769/EEC)	0.0005	N.D.				
PBBEs(PBDEs)(Polybrominated biphenyl ethers)	%	With reference to USEPA3540 or USEPA3550. Analysis was performed by HPLC/DAD, LC/MS or GC/MS. (prohibited by 2002/95/EC (RoHS), 83/264/EEC and 76/769/EEC)	0.0005	N.D.				

				Result				
Test Item (s):	Unit	Method	MDL	No.6	No.7	No.8		
Polychlorinated Naphthalene		Analysis was performed by GC/MS.	5	N.D.				

				Result				
Test Item (s):	Unit	Method	MDL	No.6	No.7	No.8		
PVC free(CAS No:9002-86-2)		Analysis was performed by FTIR/ATR and Pyro-GC/MS.	-	Negative				



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						Result	
Test Item (s):	Unit	Method	MDL	No.6	No.7	No.8	
Chromium VI (Cr+6)	ppm	As per US EPA 7196A and US EPA 3060A.	2	N.D.	N.D.	N.D.	
Cadmium (Cd)	ppm	ICP-AES after as per EN 1122, method B:2001 or other acid digestion.	2	N.D.	N.D.	N.D.	
Mercury (Hg)	ppm	ICP-AES after as per US EPA 3052 or other acid digestion.	2	N.D.	N.D.	N.D.	
Lead (Pb)	ppm	ICP-AES after as per US EPA 3050B or other acid digestion.	2	N.D.	N.D.	5.1	
Nickel (Ni)	ppm	ICP-AES after as per US EPA 3050B or other acid digestion.	2	N.D.			

				Result				
Test Item (s):	Unit	Method	MDL	No.6	No.7	No.8		
Organic-tin coumpounds								
Triphenyl Tin(TPT)(CAS NO:000668-34-8)	ppm	With reference to 83/677/EEC & DIN 38407. Analysis was performed by GC/FPD.	0.03		N.D.			
Tributyl Tin(TBT)	ppm	With reference to 83/677/EEC & DIN 38407. Analysis was performed by GC/FPD.	0.03		N.D.			

NOTE

- (1) N.D. = Not detected (<MDL)
- (2) ppm = mg/kg
- (3) MDL = Method Detection Limit
- (4) " --- " = Not Applicable
- (5) " " = No Regulation
- (6) * = Results shown are of the adjusted analytical results
- (7) ** = Qualitative analysis (No Unit)
- (8) Negative = Undetectable / Positive = Detectable