

## Materials Declaration

<b>Package</b>	CSP_BGA
<b>Body Size</b>	13 X 13
<b>Ball Count</b>	144
<b>Option</b>	96.5Sn/3Ag/0.5Cu
<b>Ball Size</b>	0.6mm

Molding Compound			
Item	% of Compound	Weight (g)	PPM
SiO2 Filler	77.0	1.32 E-01	257284
Epoxy resin	10.0	1.71 E-02	33413
Phenol Resin	10.0	1.71 E-02	33413
Metal Hydroxide	2.5	4.28E-03	8353
Carbon Black	0.5	8.56 E-04	1671

Laminate			
Item	% of Laminate	Weight (g)	PPM
BT-Epoxy	27.0	2.98E-02	58230
Glass Fiber	25.0	2.76E-02	53916
Copper	18.0	1.99E-02	38820
Solder Mask	11.0	1.22E-02	23723
Nickel	11.0	1.22E-02	23723
Gold	8.0	8.84E-03	17253

Solder Ball			
	% of Solder Ball	Weight (g)	PPM
Sn	96.5	1.16 E-01	226985
Ag	3.0	3.62 E-03	7059
Cu	0.5	6.03 E-04	1176

Bond Wires			
	% of Wire	Weight (g)	PPM
Au	99.99	2.35 E-03	4585

Chip			
	% of Chip	Weight (g)	PPM
Si	100.0	3.26 E-02	63626

Die Attach			
Item	% of Die Attach	Weight (g)	PPM
Ag	75.0	5.64E-02	110077
Diester	12.5	9.40E-03	18346
Resin	5.0	3.76E-03	7338
Functionalized ester	5.0	3.76E-03	7338
Functionalized urethane	2.5	1.88E-03	3669

Package Totals	
Weight (g)	PPM
5.12 E-01	1000000

Molding Compound		
Item	PPM	Method
Pb	Not Detected	USEPA3050B, ICP-AES
Cd	Not Detected	EN 1122 Method B:2001, ICP-AES
Hg	Not Detected	USEPA 3052, ICP-AES
Cr+6	Not Detected	USEPA 3060A & USEPA 7196A
PBB	Not Detected	Analysis was performed by GC/MS
PBDE	Not Detected	Analysis was performed by GC/MS

Die Attach Paste		
Item	PPM	Method
Pb	5.00	US EPA Method 3052, ICP-OES
Cd	Not Detected	US EPA Method 3052, ICP-OES
Hg	Not Detected	US EPA Method 3052, ICP-OES
Cr+6	Not Detected	US EPA Method 3060A & 7196A, UV-VIS
PBB	Not Detected	Analysis was performed by GC/MS
PBDE	Not Detected	Analysis was performed by GC/MS

Laminate		
Item	PPM	Method
Pb	Not Detected	US EPA Method 3052, ICP-OES
Cd	Not Detected	US EPA Method 3052, ICP-OES
Hg	Not Detected	US EPA Method 3052, ICP-OES
Cr+6	Not Detected	US EPA Method 3060A & 7196A, UV-VIS
PBB	Not Detected	Analysis was performed by GC/MS
PBDE	Not Detected	Analysis was performed by GC/MS

Note: The information provided in this declaration are true to the best of ADI's knowledge. ADI derived most of the information listed in this declaration from documents provided by third parties, and assumes no liability to any inaccuracy of such information.



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8/16/06

## Materials Declaration

<b>Package</b>	CSP_BGA
<b>Body Size</b>	13 X 13
<b>Ball Count</b>	144
<b>Option</b>	62Sn/36Pb/2Ag
<b>Ball Size</b>	0.6mm

Molding Compound			
Item	% of Compound	Weight (g)	PPM
SiO2 Filler	86.2	1.48 E-01	276211
Epoxy resin	6.0	1.03 E-02	19226
Phenol Resin	6.0	1.03 E-02	19226
Metal Hydroxide	1.5	2.57 E-03	4806
Carbon Black	0.3	5.14 E-04	962

Laminate			
Item	% of Laminate	Weight (g)	PPM
BT-Epoxy	27.0	2.98 E-02	55842
Glass Fiber	25.0	2.76 E-02	51705
Copper	18.0	1.99 E-02	37228
Solder Mask	11.0	1.22 E-02	22750
Nickel	11.0	1.22 E-02	22750
Gold	8.0	8.84 E-03	16546

Solder Ball			
Item	% of Solder Ball	Weight (g)	PPM
Sn	62.0	8.49 E-02	158816
Pb	36.0	4.93 E-02	92216
Ag	2.0	2.74 E-03	5123

Bond Wires			
Item	% of Wire	Weight (g)	PPM
Au	99.99	2.35 E-03	4397

Chip			
Item	% of Chip	Weight (g)	PPM
Si	100.0	3.82 E-02	71446

Die Attach			
Item	% of Die Attach	Weight (g)	PPM
Ag	75.0	5.64 E-02	105563
Diester	12.0	9.02 E-03	16890
Resin	5.0	3.76 E-03	7038
Functionalized ester	5.0	3.76 E-03	7038
Functionalized urethane	3.0	2.26 E-03	4223

Package Totals	
Weight (g)	PPM
<b>5.34 E-01</b>	1000000

Molding Compound		
Item	PPM	Method
Pb	None Detected	USEPA3050B. ICP-AES
Cd	None Detected	EN 1122 Method B:2001. ICP-AES
Hg	None Detected	USEPA 3052. ICP-AES
Cr+6	None Detected	USEPA 3060A & USEPA 7196A
PBB	None Detected	Analysis was performed by GC/MS
PBDE	None Detected	Analysis was performed by GC/MS

Die Attach Paste		
Item	PPM	Method
Pb	5.00	US EPA Method 3052. ICP-OES
Cd	None Detected	US EPA Method 3052. ICP-OES
Hg	None Detected	US EPA Method 3052. ICP-OES
Cr+6	None Detected	US EPA Method 3060A & 7196A. UV-VIS
PBB	None Detected	Analysis was performed by GC/MS
PBDE	None Detected	Analysis was performed by GC/MS

Laminate		
Item	PPM	Method
Pb	None Detected	US EPA Method 3052. ICP-OES
Cd	None Detected	US EPA Method 3052. ICP-OES
Hg	None Detected	US EPA Method 3052. ICP-OES
Cr+6	None Detected	US EPA Method 3060A & 7196A. UV-VIS
PBB	None Detected	Analysis was performed by GC/MS
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