Materials Declaration

Package	CSP_BGA
Body Size	17 x 17 mm
LeadCount	208
Option	SnPbAg
Ball Size	0.45 mm

Molding Compound

Item	% of Compound	Weight (g)	PPM
SiO2 Filler	86.2	3.55 E-01	414592
Epoxy resin	6.0	2.47 E-02	28858
Phenol Resin	6.0	2.47 E-02	28858
Metal Hydroxide	1.5	6.18 E-03	7214
Carbon Black	0.3	1.24 E-03	1443

Laminate

Item	% of Laminate	Weight (g)	PPM
BT - epoxy	27.0	7.52 E-02	87816
Glass Fiber	25.0	6.97 E-02	81311
Cu	18.0	5.01 E-02	58543
Ni	11.0	3.06 E-02	35777
Solder mask	11.0	3.06 E-02	35777
Au	8.0	2.23 E-02	26020

Solder Ball

	% of Plating	Weight (g)	PPM
Sn	62.0	5.17 E-02	60362
Pb	36.0	3.00 E-02	35049
Ag	2.00	1.67 E-03	1947

Bond Wires

	% of Wire	Weight (g)	PPM
Au	99.00	3.87 E-03	4515

Chip

	% of Chip	Weight (g)	PPM
Si	100.0	1.62 E-02	18955

Die Attach

Item	% of Die Attach	Weight (g)	PPM
Ag Filler	75.0	4.69 E-02	54721
Diester	12.0	7.50 E-03	8755
Functionalized ester	5.0	3.13 E-03	3648
Epoxy resin	5.0	3.13 E-03	3648
Functionalized urethane	3.0	1.88 E-03	2189

Weight (g)	PPM
8.57 E-01	1000000

Mold 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

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
PBDE	None 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.

ANALOG DEVICES

ADI Proprietary

10/19/2006

Materials Declaration

Package	CSP_BGA
Body Size	17 x 17 mm
LeadCount	208
Option	SnAgCu
Ball Size	0.45 mm

Molding Compound

Item	% of Compoun	Weight (g)	PPM
SiO2 Filler	86.2	3.55 E-01	419454
Epoxy resin	6.0	2.47 E-02	29196
Phenol Resin	6.0	2.47 E-02	29196
Metal Hydroxide	1.5	6.18 E-03	7299
Carbon Black	0.3	1.24 E-03	1460

Laminate

Item	% of Laminate	Weight (g)	PPM
BT - epoxy	27.0	7.52 E-02	88846
Glass Fiber	25.0	6.97 E-02	82265
Cu	18.0	5.01 E-02	59230
Ni	11.0	3.06 E-02	36197
Solder mask	11.0	3.06 E-02	36197
Au	8.0	2.23 E-02	26325

Solder Ball

	% of Plating	Weight (g)	PPM
Sn	96.5	7.09 E-02	83736
Ag	3.00	2.20 E-03	2603
Cu	0.50	3.67 E-04	433

Bond Wires

	% of Wire	Weight (g)	PPM
Au	99.00	3.87 E-03	4568

Chip

	% of Chip	Weight (g)	PPM
Si	100.0	1.62 E-02	19177

Die Attach

Item	% of Die Attach	Weight (g)	PPM
Ag Filler	75.0	4.69 E-02	55363
Diester	12.0	7.50 E-03	8858
Functionalized ester	5.0	3.13 E-03	3691
Epoxy resin	5.0	3.13 E-03	3691
Functionalized urethane	3.0	1.88 E-03	2215

Weight (g)	PPM
8.47 E-01	1000000

Mold 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

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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