Materials Declaration

Package	CSP_BGA - Stacked Die
Body Size	8 x 8 mm
LeadCount	105
Option	Pb- free
Ball Size	0.40 mm

Molding Compound

Item	% of Compound	Weight (g)	PPM
SiO2 Filler	86.2	7.45 E-02	445509
Epoxy resin	6.0	5.19 E-03	31010
Phenol resin	6.0	5.19 E-03	31010
Metal Hydroxide	1.5	1.30 E-03	7752
Carbon black	0.3	2.59 E-04	1550
Subtotal		8.64 E-02	516832

Laminate

Item	% of Laminate	Weight (g)	PPM
Cu	40.0	1.61 E-02	96131
Fiber glass	31.6	1.27 E-02	75943
Epoxy Resin	25.0	1.00 E-02	60082
Nickel	3.0	1.21 E-03	7210
Au	0.4	1.61 E-04	961
Subtotal		4.02 E-02	240327

Solder Ball

	% of Plating	Weight (g)	PPM
Sn	96.5	2.51 E-02	150154
Ag	3.0	7.79 E-04	4658
Cu	0.50	1.41 E-04	844
Subtotal		2.60 E-02	155656

Bond Wires

	% of Wire	Weight (g)	PPM
Au	99.00	4.15 E-03	24805
Pd	1.0	4.19 E-05	251
Subtotal		4.19 E-03	25055

Chip

	% of Chip	Weight (g)	PPM
Si	100.0	9.36 E-03	55971

Die Attach 1

Item	% of Die Attach	Weight (g)	PPM
Silicon dioxide	42.5	2.34 E-04	1398
Diester resin	27.5	1.51 E-04	904
Functionalized ester	15.0	8.25 E-05	493
Epoxy resin	7.5	4.13 E-05	247
Polymeric material	7.5	4.13 E-05	247
Subtotal		5.50 E-04	3289

Die Attach 2

Item	% of Die Attach	Weight (g)	PPM
Proprietary filler	40.0	6.00 E-05	359
Proprietary bismaleimide	40.0	6.00 E-05	359
Proprietary polymer	20.0	3.00 E-05	179
Subtotal		1.50 E-04	897

Die Attach 3

Item	% of Die Attach	Weight (g)	PPM
Silicon dioxide	42.5	1.40 E-04	839
Diester resin	27.5	9.08 E-05	543
Functionalized ester	15.0	4.95 E-05	296
Epoxy resin	7.5	2.48 E-05	148
Polymeric material	7.5	2.48 E-05	148
Subtotal		3.30 E-04	1973

Weight (g)	PPM
1.67 E-01	1000000

Mold Compound

Item	PPM	Method
Pb	None Detected	Draft IEC 62321. ICP-OES.
Cd	None Detected	Draft IEC 62321. ICP-OES.
Hg	None Detected	Draft IEC 62321. ICP-OES.
Cr+6	None Detected	Draft IEC 62321. UV-VIS.
PBB	None Detected	Draft IEC 62321. GC-MSD.
PBDE	None Detected	Draft IEC 62321. GC-MSD.

Die Attach 1

Item	PPM	Method
Pb	None Detected	USEPA 3050B. ICP-AES.
Cd	None Detected	BS EN 1122:2001. ICP-AES.
Hg	None Detected	USEPA 3052. ICP-AES.
Cr+6	None Detected	USEPA 3060A & 7196A. UV-VIS.
PBB	None Detected	USEPA 3540C. GC/MS.
PBDE	None Detected	USEPA 3540C. GC/MS.

Die Attach 2

Item	PPM	Method
Pb	None Detected	US EPA 3050B, USEPA6010B. ICP
Cd	None Detected	US EPA 3050B, USEPA6010B, ICP
Hg	None Detected	US EPA 3052, USEPA 6010B, ICP
Cr+6	None Detected	US EPA 3060A, USEPA 7196A, UV.
PBB	None Detected	US EPA 3540C. GC/MS
PBDE	None Detected	US EPA 3540C. GC/MS

Die Attach 3

Item	PPM	Method
Pb	None Detected	Draft IEC 62321. ICP-OES.
Cd	None Detected	Draft IEC 62321. ICP-OES.
Hg	None Detected	Draft IEC 62321. ICP-OES.
Cr+6	None Detected	Draft IEC 62321. UV-VIS.
PBB	None Detected	Draft IEC 62321. GC-MSD.
PBDE	None Detected	Draft IEC 62321. GC-MSD.

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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