Materials Declaration

Package	CSP BGA
Body Size	17 X 17
Ball Count	256
Option	Pb-Free
Ball Size	0.6 mm

Molding Compound

Item	% of Compound	Weight (g)	PPM
Epoxy resin	7	2.39 E-02	25020
SiO2 Filler	85	2.90 E-01	303818
Phenol Resin	6.5	2.22 E-02	23233
Carbon Black	0.5	1.70 E-03	1787
Metal Hydroxide	1	3.41 E-03	3574

Laminate

Item	% of Laminate	Weight (g)	PPM
BT-Epoxy	28	9.59 E-02	100571
Glass Fiber	25	8.57 E-02	89796
Copper	19	6.51 E-02	68245
Gold	11	3.77 E-02	39510
Nickel	7.8	2.67 E-02	28016
Solder Mask	9.35	3.20 E-02	33584
Brominated Compound	Confidential	Not Determined	

Solder Ball

	% of Solder Ball	Weight (g)	PPM
Sn	96.5	2.35 E-01	246036
Ag	3	7.30 E-03	7649
Cu	0.5	1.22 E-03	1275

Bond Wires

	% of Wire	Weight (g)	PPM
Au	99.99	7.38 E-03	7733

Chip

	% of Chip	Weight (g)	PPM
Si	**100**	1.68 E-02	17565

Die Attach

Item	% of Die Attach	Weight (g)	PPM
Resin	24	5.92 E-04	621
Ag Filler	76	1.88 E-03	1967

Molding Compound

Item	PPM	Method
Pb	<2.0	EPA method #3052 (ICPAES)
Cd	<2.0	BS EN 1122:2001B (ICPaes)
Hg	<2.0	Mercury Analyser
Cr+6	<2.0	EPA method #3060A(UV)

Die Attach Paste

Item	PPM	Method
Pb	<5.0	ICP-AES
Cd	<5.0	ICP-AES
Hg	<5.0	ICP-AES
Cr+6	<5.0	ICP-AES

Laminate

Item	PPM	Method
Pb	<14	
Cd	<2.0	
Hg	<2.0	
Cr+6	<19	
PBB	Not Detected	
PBDE	Not Detected	

Package Totals

Weight (g)	PPM
9.54 E-01	1000000

STS-BC-E

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

7/21/04

Materials Declaration

Package	CSP BGA
Body Size	17 X 17
Ball Count	256
Option	SnPbAg
Ball Size	0.6 mm

Molding Compound

Item	% of Compound	Weight (g)	PPM
Silica	90	3.00 E-01	317305
epoxy resin	4.8	1.60 E-02	16923
Phenol resin	3.9	1.31 E-02	13785
Antimony trioxide	0.7	2.30 E-03	2433
Bromine	0.6	2.00 E-03	2115

Laminate

Item	% of Laminate	Weight (g)	PPM
BT-Epoxy	28	9.59 E-02	101333
Glass Fiber	25	8.57 E-02	90476
Copper	19	6.51 E-02	68762
Gold	11	3.77 E-02	39810
Nickel	7.8	2.67 E-02	28229
Solder Mask	9.35	3.20 E-02	33838
Brominated Compound	Confidential	Not Determined	

Solder Ball

	% of Solder ball	Weight (g)	PPM
Sn	62	1.51 E-01	159273
Pb	36	8.76 E-02	92481
Ag	2	4.86 E-03	5138

Bond Wires

	% of Wire	Weight (g)	PPM
Au	99.99	7.38 E-03	7792

Chip

	% of Chip	Weight (g)	PPM
Si	**100**	1.68 E-02	17698

Die Attach

Item	% of Die Attach	Weight (g)	PPM
Resin	23	5.68 E-04	600
Ag Filler	77	1.90 E-03	2008

Package Totals

Weight (g)	PPM
9.47 E-01	1000000

Molding Compound

Item	PPM	Method
Cd	<5	BS EN 1122:2001B (ICPaes)

Die Attach Paste

Item	PPM	Method
Pb	<5.0	ICP-AES
Cd	<5.0	ICP-AES
Hg	<5.0	ICP-AES
Cr+6	<5.0	ICP-AES

Laminate

Item	PPM	Method
Pb	<14	
Cd	<2.0	
Hg	<2.0	
Cr+6	<19	
PBB	Not Detected	
PBDE	Not Detected	

STS-BC-A

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ANALOG DEVICES