Product / Package Information

Package	CSP BGA
Body Size (mm)	17 X 17
Ball Count	400
Terminal Finish	SnAgCu
Ball Size (mm)	0.45

Environmental Information

RoHS Compliant	Yes
High Temperature Compliant	Yes
Halogen Free Compliant	Yes
REACH SVHC Compliant	Yes

Materials Declaration

Molding Compound

Description	Substance	CAS#	Weight (g)	Homogeneous Material Level		Component Level	
				Percentage (%)	PPM	Percentage (%)	PPM
Other inorganic materials	Silica	60676-86-0	2.95 E-01	86.20	862000	36.14	361373
Thermosets	Epoxy resin	Proprietary	2.05 E-02	6.00	60000	2.52	25154
Thermosets	Phenol Resin	Proprietary	2.05 E-02	6.00	60000	2.52	25154
Other inorganic materials	Metal Hydroxide	Proprietary	5.13 E-03	1.50	15000	0.63	6288
Other inorganic materials	Carbon Black	1333-86-4	1.03 E-03	0.30	3000	0.13	1258
Subtotal			3.42 E-01	100.0	1000000	41.92	419226

Laminate

Description	Substance	CAS#	Weight (g)	Homogeneous Material Level		Component Level	
				Percentage (%)	PPM	Percentage (%)	PPM
Copper & its alloys	Copper Foil	7440-50-8	4.51 E-02	15.87	158700	5.53	55279
Composite	Glass Cloth	65997-17-3	4.39 E-02	15.45	154500	5.38	53816
Thermoset	Epoxy resin	7238-97-4	8.78 E-03	3.09	30900	1.08	10763
Thermoset	Bismaleimide	13676-54-5	8.78 E-03	3.09	30900	1.08	10763
Thermoset	Triazine	25722-66-1	8.78 E-03	3.09	30900	1.08	10763
Other inorganic materials	Inorganic filler	Proprietary	1.76 E-02	6.18	61800	2.15	21527
	Laminate Core Subtotal		1.33 E-01	46.77	467700	16.29	162912
Organic materials	Modified Resin	Proprietary	4.04 E-03	1.42	14200	0.49	4946
Other inorganic materials	Barium Sulfate	7727-43-7	4.12 E-03	1.45	14500	0.51	5051
Organic materials	Aromatic Hydrocarbon	Proprietary	2.27 E-03	0.80	8000	0.28	2787
Organic materials	Epoxy Resin	Proprietary	2.13 E-03	0.75	7500	0.26	2612
Organic materials	Diethylene Glycol Monoethyl Ether Acetate	112-15-2	1.45 E-03	0.51	5100	0.18	1776
Organic materials	Acrylic ester monomer	Proprietary	6.25 E-04	0.22	2200	0.08	766
Organic materials	Aromatic Carbonyl Compound	Proprietary	3.98 E-04	0.14	1400	0.05	488
Organic materials	Dipropylene Glycol Monomethyl Ether	34590-94-8	3.70 E-04	0.13	1300	0.05	453
Others	Levelling agents & others	Proprietary	2.56 E-04	0.09	900	0.03	313
Organic materials	Organic Filler	Proprietary	1.99 E-04	0.07	700	0.02	244
Organic materials	Amine Compound	Proprietary	5.69 E-05	0.02	200	0.01	70
Organic materials	Phthalcyanine Green	Proprietary	2.84 E-05	0.01	100	0.003	35
	Soldermask Subtotal		1.59 E-02	5.61	56100	1.95	19541
Copper & its alloys	Copper	7440-50-8	1.30 E-01	45.61	456100	15.89	158872
Nickel & its alloys	Nickel	7440-02-0	5.06 E-03	1.78	17800	0.62	6200
Precious metals	Gold	7440-57-5	6.54 E-04	0.23	2300	0.08	801
Subtotal			2.84 E-01	100.00	1000000	34.83	348326

Solder Ball

Description	Substance	CAS#	Weight (g)	Homogeneous Material Level		Component Level	
				Percentage (%)	PPM	Percentage (%)	PPM
Tin & its alloys	Tin	7440-31-5	1.36 E-01	96.50	965000	16.70	166995
Tin & its alloys	Silver	7440-22-4	4.24 E-03	3.00	30000	0.52	5192
Tin & its alloys	Copper	7440-50-8	7.06 E-04	0.50	5000	0.09	865
Subtotal			1.41 E-01	100	1000000	17.31	173052

Bond Wires

Description	Substance	CAS#	Weight (g)	Homogeneous Material Level		Component Level	
				Percentage (%)	PPM	Percentage (%)	PPM
Precious metals	Gold	7440-57-5	8.28 E-03	99	990000	1.02	10152
Precious metals	Palladium	7440-05-3	8.37 E-05	1	10000	0.01	103
Subtotal			8.37 E-03	100	1000000	1.03	10254

Chip

Description	Substance	CAS#	Weight (g)	Homogeneous Material Level		Component Level	
				Percentage (%)	PPM	Percentage (%)	PPM
Other inorganic materials	Doped Silicon	7440-21-3	3.41 E-02	100	1000000	4.17	41737

Die Attach

Description	Substance	CAS#	Weight (g)	Homogeneous Material Level		Component Level	
				Percentage (%)	PPM	Percentage (%)	PPM
Precious metals	Silver	7440-22-4	4.72 E-03	78.12	781200	0.58	5785
Thermoset	Trade secret Acrylic resin	TS# 10055	4.72 E-04	7.81	78100	0.06	578
Other organic materials	Bismaleimide monomer	TS# 10049	4.72 E-04	7.81	78100	0.06	578
Other organic materials	Epoxy resin	TS# 10114	1.89 E-04	3.13	31300	0.02	232
Thermoset	Acrylic resin	TS# 10051	1.89 E-04	3.13	31300	0.02	232
Subtotal			6.04 E-03	100.00	1000000	0.74	7405

	Weight (g)	Percentage (%)	PPM
Package Totals	**8.16 E-01**	**100.00**	**1000000**

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