Product / Package Information

Package	CSP BGA - Flip Chip
Body Size (mm)	8 X 8
Ball Count	49
Terminal Finish	SnAgCu with RoHS exemption
Ball Size (mm)	0.60

Environmental Information

RoHS Compliant	Yes - with exemption
High Temperature Compliant	Yes
Halogen Free Compliant	Yes
REACH SVHC Compliant	Yes

Materials Declaration

Underfill

Description	Substance	CAS#	Weight (g)	Homogeneous Material Level		Component Level	
				Percentage (%)	PPM	Percentage (%)	PPM
Other inorganic materials	Silicon dioxide	60676-86-0	1.06 E-03	53.0	530000	0.60	5985
Other organic materials	Bispenol F epoxy resin	9003-36-5	4.00 E-04	20.0	200000	0.23	2258
Thermoset	Phenolic resin	Proprietary	3.00 E-04	15.0	150000	0.17	1694
Others	Additive	Proprietary	1.00 E-04	5.0	50000	0.06	565
Other organic materials	Bispenol A epoxy resin	25068-38-6	6.00 E-05	3.0	30000	0.03	339
Other organic materials	Amine accelerator	Proprietary	6.00 E-05	3.0	30000	0.03	339
Other inorganic materials	Carbon Black	1333-86-4	2.00 E-05	1.0	10000	0.01	113
Subtotal			2.00 E-03	100.0	1000000	1.13	11292

Laminate

Description	Substance	CAS#	Weight (g)	Homogeneous Material Level		Component Level	
				Percentage (%)	PPM	Percentage (%)	PPM
Glass	Continuous Fiber Glass	65997-17-3	1.43 E-02	15.16	152224	8.07	80737
Thermoset	Bismaleimide Triazine	13676-54-5 / 25722-66-1	1.77 E-02	18.84	188417	9.99	99933
Thermoset	Epoxy Resin	68541-56-0 / 29690-82-2 /25068-38-6					
Others	Inorganic Filler	Proprietary					
	Laminate Core Subtota		2.42 E-02	25.80	257609	13.66	136631
Other inorganic materials	Barium sulfate	7727-43-7	2.31 E-03	2.46	24602	1.30	13049
Other inorganic materials	Silica	7631-86-9					
Other inorganic materials	Talc	14807-96-6					
Other organic materials	Organic Pigment	Proprietary	1.00 E-04	0.06	1065	0.06	565
Other organic materials	Phthalocyanine blue	Proprietary					
Others	Additives	Proprietary	2.00 E-04	0.17	2129	0.11	1129
	Soldermask Subtota		1.80 E-02	19.20	192036	10.19	101852
Copper & its alloys	Copper	7440-50-8	4.88 E-02	51.90	519051	27.53	275295
Nickel & its alloys	Nickel	7440-02-0	2.53 E-03	2.69	26903	1.43	14269
Precious Metals	Gold	7440-57-5	4.13 E-04	0.44	4400	0.23	2334
Subtotal			9.39 E-02	100.0	1000000	53	530381

Solder Ball

Description	Substance	CAS#	Weight (g)	Homogeneous Material Level		Component Level	
				Percentage (%)	PPM	Percentage (%)	PPM
Tin & its alloys	Tin	7440-31-5	3.96 E-02	96.50	965000	22.34	223435
Tin & its alloys	Silver	7440-22-4	1.23 E-03	3.00	30000	0.69	6946
Tin & its alloys	Copper	7440-50-8	2.05 E-04	0.50	5000	0.12	1158
Subtotal			4.10 E-02	100	1000000	23.15	231539

Chip

Description	Substance	CAS#	Weight (g)	Homogeneous Material Level		Component Level	
				Percentage (%)	PPM	Percentage (%)	PPM
Other inorganic materials	Doped Silicon	7440-21-3	1.78 E-02	100	1000000	10.03	100336

Wafer Bumps

Description	Substance	CAS#	Weight (g)	Homogeneous Material Level		Component Level	
				Percentage (%)	PPM	Percentage (%)	PPM
Other inorganic materials	Tin	7440-31-5	4.56 E-03	63.00	630000	2.57	25725
Other organic materials	Lead	7439-92-1	2.68 E-03	37.00	370000	1.51	15108
Subtotal			7.23 E-03	100.00	1000000	4.08	40833

UBM

Description	Substance	CAS#	Weight (g)	Homogeneous Material Level		Component Level	
				Percentage (%)	PPM	Percentage (%)	PPM
Copper & its alloys	Copper	7440-50-8	7.94 E-05	65.3	653270	0.04	448
Nickel & its alloys	Nickel	7440-02-0	3.40 E-05	28.0	279564	0.02	192
Nickel & its alloys	Vanadium	7440-62-2	3.16 E-06	2.6	25970	0.002	18
Other inorganic materials	Titanium	7440-32-6	5.00 E-06	4.1	41196	0.003	28
Subtotal			1.21 E-04	100.0	1000000	0.07	686

Polyimide

Description	Substance	CAS#	Weight (g)	Homogeneous Material Level		Component Level	
				Percentage (%)	PPM	Percentage (%)	PPM
Other organic materials	Photosensitive PolyimideResin	Proprietary		30-60			
Other organic materials	Acrylate Ester	Proprietary		5-10			
Others	Proprietary Ingredients	Proprietary		1-5			
Subtotal			1.50E-02	100	1000000	8.49	84934

	Weight (g)	Percentage (%)	PPM
Package Totals	**1.77 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