



Package Material Composition and Mass Calculation

Customer: GSI
 Package: : LBGA 13x15 165L
 Device Type: : GS8662xxxBGD
 Die Size: : 9972X10052
 Total Pck. Weight (g): 0.47386

Provided By: TW Sun
 Date: 2015/08/12

	name	composition	CAS No.	%	mg.(ave)	mg.	%	PPM
Mold Compound	KE-G2250LKDS Kyocera	Silica	60676-86-0	75-95%	142.26	158.07	33.36	333,580
		Epoxy resin	Trade Secret	1-10%	8.69		30.02	300,222
		Phenolic resin	Trade Secret	2-7%	7.11		1.83	18,347
							1.50	15,011
Substrate	BT-substrate	SiO2	60676-86-0	10-12	17.82	161.19	34.02	340,164
		Acrylic	Trade Secret	9-11	16.12		3.76	37,605
		Epoxy	29690-82-2, 68541-56-0, 25068-38-6	6-10	12.90		3.40	34,016
		Bisphenol	13676-54-5	10-20	24.18		2.72	27,213
		Triazol	25722-66-1	15-20	28.21		5.10	51,025
		Cu	7440-50-8	30-40	58.67		5.95	59,529
		Ni	7440-02-0	1-2	2.42		12.38	123,803
		Au	7440-57-5	0.2-0.9	0.89		0.51	5,102
							0.19	1,871
Die	Silicon	Silicon	7440-21-3		48.46	48.46	10.23	102,266
Die Attach	ATB-125	Cresol-epichlorohydrin-formaldehyde polymer	37382-79-9	35-50	11.89	23.77	5.02	50,162
		Rubber modified epoxy	Trade Secret	20-35	8.32		2.51	21,319
		Aromatic amine	Trade Secret	5-10	1.83		1.76	13,795
		Silica, hydrophobic amorphous-fumed	67762-90-7	1-5	0.95		0.39	3,762
		Silica-based glycidyl ether	2530-83-8	1-5	0.71		0.20	1,505
		4,4'-isopropylidenediphenol	80-05-7	<0.5	0.06		0.15	1,505
				0.01	125			
Golden Wire	25um	Au	7440-57-5	99.99	2.55	2.55	0.54	5,381
		Ion Impurities	Trade Secret	0.01	0.00		0.54	5,381
External Plating	Solder Ball (96.5Sn3.0Ag0.5Cu)	Tin (Sn)	7440-31-5	96.5	77.03	79.82	16.84	168,446
		Silver (Ag)	7440-22-4	3.0	2.39		16.26	162,551
		Cu	7440-50-8	0.5	0.40		0.51	5,053
							0.08	842
Total						473.86	100	1000000

DISCLAIMER

- The above material declaration can be used only as reference in identifying the Hazardous material content of the product.
- ASE does not guarantee the Material composition accuracy as it is based on the data provided by outside sources and has not been validated.
- This material declaration does not include data from any active and passive component assembled in the package.

Will products contain the following RoHS defined substances?			
Mercury and its Compounds	Yes	No	X
Cadmium and its Compounds	Yes	No	X
Lead and its Compounds	Yes	No	X
Hexavalent Chromium and its Compounds	Yes	No	X
Polybrominated biphenyls (PBB)	Yes	No	X
Polybrominated diphenyl ethers (PBDE)	Yes	No	X
Is this Product meet ROHS Compliance?	Yes	X	No