



Package Material Composition and Mass Calculation

Customer: GSI
 Package: : LBGA 13x15 165L
 Device Type: : GS8342xxxBGD
 Die Size: : 6418X10272
 Total Pck. Weight (g): 0.45755

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	34.55	345,470
		Epoxy resin	Trade Secret	1-10%	8.69		31.09	310,923
		Phenolic resin	Trade Secret	2-7%	7.11		1.90	19,001
							1.55	15,546
Substrate	BT-substrate	SiO2	60676-86-0	10-12	17.82	161.19	35.23	352,289
		Acrylic	Trade Secret	9-11	16.12		3.89	38,946
		Epoxy	29690-82-2, 68541-56-0, 25068-38-6	6-10	12.90		3.52	35,229
		Bisphenol	13676-54-5	10-20	24.18		2.82	28,183
		Triazol	25722-66-1	15-20	28.21		5.28	52,843
		Cu	7440-50-8	30-40	58.67		6.17	61,651
		Ni	7440-02-0	1-2	2.42		12.82	128,216
		Au	7440-57-5	0.2-0.9	0.89		0.53	5,284
							0.19	1,938
Die	Silicon	Silicon	7440-21-3		32.21	32.21	7.04	70,397
Die Attach	ATB-125	Cresol-epichlorohydrin-formaldehyde polymer	37382-79-9	35-50	10.10	23.77	5.20	51,951
		Rubber modified epoxy	Trade Secret	20-35	6.54		2.21	22,079
		Aromatic amine	Trade Secret	5-10	1.78		1.43	14,286
		Silica, hydrophobic amorphous-fumed	67762-90-7	1-5	0.71		0.39	3,896
		Silica-based glycidyl ether	2530-83-8	1-5	0.71		0.16	1,559
		4,4'-isopropylidenediphenol	80-05-7	<0.5	0.06		0.16	1,559
					0.01	130		
Golden Wire	25um	Au	7440-57-5	99.99	2.49	2.49	0.54	5,442
		Ion Impurities	Trade Secret	0.01	0.00		0.54	5,441
External Plating	Solder Ball (96.5Sn3.0Ag0.5Cu)	Tin (Sn)	7440-31-5	96.5	77.03	79.82	17.45	174,451
		Silver (Ag)	7440-22-4	3.0	2.39		16.83	168,345
		Cu	7440-50-8	0.5	0.40		0.52	5,234
Total						457.55	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