



Package Material Composition and Mass Calculation

Customer: GSI
 Package: : LBGA 15x17 165L
 Device Type: : GS82582xxxGE
 Die Size: : 12360X13500
 Total Pck. Weight (g): 0.55558

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	28.45	284,513
		Epoxy resin	Trade Secret	1-10%	8.69		1.56	15,648
		Phenolic resin	Trade Secret	2-7%	7.11		1.28	12,803
Substrate	BT-substrate	SiO2	60676-86-0	10-12	23.37	211.43	38.06	380,557
		Acrylic	Trade Secret	9-11	21.14		4.21	42,071
		Epoxy	29690-82-2, 68541-56-0, 25068-38-6	6-10	16.91		3.81	38,056
		Bisphenol	13676-54-5	10-20	31.71		3.04	30,445
		Triazol	25722-66-1	15-20	37.00		5.71	57,084
		Cu	7440-50-8	30-40	76.95		6.66	66,598
		Ni	7440-02-0	1-2	3.17		13.85	138,504
		Au	7440-57-5	0.2-0.9	1.16		0.57	5,708
							0.21	2,093
Die	Silicon	Silicon	7440-21-3		80	80.00	14.40	143,994
Die Attach	ATB-125	Cresol-epichlorohydrin-formaldehyde polymer	37382-79-9	35-50	10.10	23.77	4.28	42,784
		Rubber modified epoxy	Trade Secret	20-35	6.54		1.82	18,183
		Aromatic amine	Trade Secret	5-10	1.78		1.18	11,766
		Silica, hydrophobic amorphous-fumed	67762-90-7	1-5	0.71		0.32	3,209
		Silica-based glycidyl ether	2530-83-8	1-5	0.71		0.13	1,284
		4,4'-isopropylidenediphenol	80-05-7	<0.5	0.06		0.13	1,284
				0.01	107			
Golden Wire	25um	Au	7440-57-5	99.99	2.49	2.49	0.45	4,482
		Ion Impurities	Trade Secret	0.01	0.00		0.45	4,481
External Plating	Solder Ball (96.5Sn3.0Ag0.5Cu)					79.82	0.00	0
		Tin (Sn)	7440-31-5	96.5	77.03		14.37	143,670
		Silver (Ag)	7440-22-4	3.0	2.39		13.86	138,641
		Cu	7440-50-8	0.5	0.40		0.43	4,310
Total						555.58	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