



Package Material Composition and Mass Calculation

Customer: GSI
 Package: : LBGA 13x15 165L
 Device Type: : GS832xxxxAD
 Die Size: : 8902X4967
 Total Pck. Weight (g): 0.44694

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	35.37	353,672
		Epoxy resin	Trade Secret	1-10%	8.69		31.83	318,304
		Phenolic resin	Trade Secret	2-7%	7.11		1.95	19,452
							1.59	15,915
Substrate	BT-substrate	SiO2	60676-86-0	10-12	17.82	161.19	36.07	360,652
		Acrylic	Trade Secret	9-11	16.12		3.99	39,870
		Epoxy	29690-82-2, 68541-56-0, 25068-38-6	6-10	12.90		3.61	36,065
		Bisphenol	13676-54-5	10-20	24.18		2.89	28,852
		Triazol	25722-66-1	15-20	28.21		5.41	54,098
		Cu	7440-50-8	30-40	58.67		6.31	63,114
		Ni	7440-02-0	1-2	2.42		13.13	131,259
		Au	7440-57-5	0.2-0.9	0.89		0.54	5,410
							0.20	1,984
Die	Silicon	Silicon	7440-21-3		21.93	21.93	4.91	49,067
Die Attach	ATB-125	Cresol-epichlorohydrin-formaldehyde polymer	37382-79-9	35-50	10.10	23.77	5.32	53,184
		Rubber modified epoxy	Trade Secret	20-35	6.54		2.26	22,603
		Aromatic amine	Trade Secret	5-10	1.78		1.46	14,626
		Silica, hydrophobic amorphous-fumed	67762-90-7	1-5	0.71		0.40	3,989
		Silica-based glycidyl ether	2530-83-8	1-5	0.71		0.16	1,596
		4,4'-isopropylidenediphenol	80-05-7	<0.5	0.06		0.01	133
Golden Wire	25um	Au	7440-57-5	99.99	1.91	1.91	0.43	4,274
		Ion Impurities	Trade Secret	0.01	0.00		0.43	4,273
External Plating	Solder Ball (63Sn / 37Pb)	Tin (Sn)	7440-31-5	63	50.44	80.07	17.92	179,152
		Lead (Pb)	7439-92-1	37	29.63		11.29	112,865
							6.63	66,286
Total						446.94	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