



Package Material Composition and Mass Calculation

Customer: GSI
 Package: : LBGA 13x15 165L
 Device Type: : GS8128xxxxGD
 Die Size: : 8613X10640
 Total Pck. Weight (g): 0.46944

Provided By: TW Sun
 Date: 2015/10/28

	name	composition	CAS No.	%	mg.(ave)	mg.	%	PPM
Mold Compound	KE-G2250LKDS Kyocera	Silica	60676-86-0	75-95%	142.26	158.07	33.67	336,720
		Epoxy resin	Trade Secret	1-10%	8.69		1.85	18,520
		Phenolic resin	Trade Secret	2-7%	7.11		1.52	15,152
Substrate	BT-substrate	SiO2	60676-86-0	10-12	17.82	161.19	34.34	343,367
		Acrylic	Trade Secret	9-11	16.12		3.80	37,959
		Epoxy	29690-82-2, 68541-56-0, 25068-38-6	6-10	12.90		2.75	27,469
		Bisphenol	13676-54-5	10-20	24.18		5.15	51,505
		Triazol	25722-66-1	15-20	28.21		6.01	60,089
		Cu	7440-50-8	30-40	58.67		12.50	124,968
		Ni	7440-02-0	1-2	2.42		0.52	5,150
		Au	7440-57-5	0.2-0.9	0.89		0.19	1,889
Die	Silicon	Silicon	7440-21-3		44.39	44.39	9.46	94,559
Die Attach	ATB-125	Cresol-epichlorohydrin-formaldehyde polymer	37382-79-9	35-50	10.10	23.77	5.06	50,635
		Rubber modified epoxy	Trade Secret	20-35	6.54		1.39	13,925
		Aromatic amine	Trade Secret	5-10	1.78		0.38	3,798
		Silica, hydrophobic amorphous-fumed	67762-90-7	1-5	0.71		0.15	1,519
		Silica-based glycidyl ether	2530-83-8	1-5	0.71		0.15	1,519
		4,4'-isopropylidenediphenol	80-05-7	<0.5	0.06		0.01	127
Golden Wire	25um	Au	7440-57-5	99.99	2.20	2.20	0.47	4,686
		Ion Impurities	Trade Secret	0.01	0.00	0.00	0	
External Plating	Solder Ball (96.5Sn3.0Ag0.5Cu)	Tin (Sn)	7440-31-5	96.5	77.03	79.82	17.00	170,032
		Silver (Ag)	7440-22-4	3.0	2.39		0.51	5,101
		Cu	7440-50-8	0.5	0.40		0.09	850
Total						469.44	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