



Package Material Composition and Mass Calculation

Customer: MAXIM
 Package: 23x23 HSBGA
 Device Type: 87-71580-003 (SnPb)
 Die Size: 9619 x 8897 um
 Total Pck. Weight (mg): 2788.698743

Provided By: Barry M.
 Date: 2008/10/21

	name	composition	CAS No.	%	mg.(ave)	mg.	%	PPM
Mold Compound	Sumitomo G770J					<u>679.897</u>	<u>24.38</u>	<u>243.804</u>
		Silica (fused)	60676-86-0	75-95%	606.468124		21.75	217,474
		Epoxy resinA	Trade Secret	1% - 5%	20.39691		0.73	7,314
		Epoxy resinB	Trade Secret	1% - 5%	20.397		0.73	7,314
		Phenolic resin	Trade Secret	1% - 5%	20.39691		0.73	7,314
		Metal Hydroxide	Trade Secret	0.5% - 2.5%	10.198455		0.37	3,657
		Carbon Black	1333-86-4	0.1-0.5%	2.039691		0.07	731
Substrate	BT-substrate					<u>752.945443</u>	<u>27.00</u>	<u>269.999</u>
		SiO2	60676-86-0	10-12	45.18		1.62	16,200
		Acrylic	Trade Secret	9-11	75.29		2.70	27,000
		Epoxy	29690-82-2, 68541-56-0, 25068-38-6	6-10	60.24		2.16	21,600
		Bisphenol	13676-54-5	10-20	123.45		4.43	44,266
		Triazol	25722-66-1	15-20	132.18		4.74	47,398
		Cu	7440-50-8	30-40	301.18		10.80	108,000
		Ni	7440-02-0	1-2	11.29		0.40	4,050
		Au	7429-90-5	0.2-0.9	4.14		0.15	1,485
Die	Silicon	Silicon	7440-21-3		48.116	<u>48.116</u>	<u>1.73</u>	<u>17,254</u>
Die Attach	ABL-2100A					<u>9.201</u>	<u>0.33</u>	<u>3,299</u>
		Silver	7440-22-4	70-90	7.27		0.26	2,607
		Epoxy Resin	Trade Secret	1-10	0.51		0.02	181
		Functionalized Ester	Trade Secret	1-10	0.51		0.02	181
		Diester	Trade Secret	5-20	0.92		0.03	330
Wire	23_um (99.99% Au)					<u>6.748</u>	<u>0.24</u>	<u>2,420</u>
		Au	7429-90-5	99.99	6.747		0.24	2,420
		Ion Impurities	Trade Secret	0.01	0.0007		0.00	0
External Plating	Solder Ball (Sn63/Pb37)_0.6mm					<u>492.800</u>	<u>17.67</u>	<u>176,713</u>
		Tin (Sn)	7440-31-5	63	310.46		11.13	111,329

	Lead (Pb)	7439-92-1	37	182.34		6.54	65,384
Heatslug	(Copper/Nickel/Chrome)				798.9913	28.6510	286,510
	Copper	7440-50-8	99.4	794.20		28.4791	284,791
	Nickel	7440-02-0	0.5-0.7	4.47		0.1604	1,604
	Chrome	-	0.04-0.06	0.32		0.0115	115
Total					2788.698743	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 Componds	Yes X	No	
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	No	X