



Package Chemistry Substances Analysis Table

Package Type:	LAE 064 (Pb-free solder balls)
Dimension:	9 x 9 mm
Weight of Unit Package:	192mg
Temperature rating:	260°C
MSL:	3
Assembly Location:	BKK
Product is RoHS Compliant	

Description	Chemicals Present	CAS Number	unit weight(mg)	unit weight/package (%)	Amount (ppm)
Silicon Die	#1 Silicon	7440-21-3	4.1388	2.1558	21,558
	subtotal		4.1388	2.1558	21,558
Bond wire	#1 Gold	7440-57-5	0.4569	0.2380	2,380
	subtotal		0.4569	0.2380	2,380
Die Attach	#1 Epoxy resin	Trade Secret	0.1022	0.0532	532
	#2 Polytetrafluoroethylene	9002-84-0	0.0836	0.0435	435
	subtotal		0.1857	0.0967	967
Substrate	#1 Aluminum Hydroxide	21645-51-2	7.2657	3.7844	37,844
	#2 Copper	7440-50-8	8.0995	4.2187	42,187
	#3 Gold	7440-57-5	0.0434	0.0226	226
	#4 Nickel	7440-02-0	0.2293	0.1194	1,194
	#5 Epoxy resin	Trade Secret	16.7780	8.7390	87,390
	#6 SiO2 Glass Cloth	65997-17-3	14.2520	7.4233	74,233
	subtotal		46.6677	24.3075	243,075
Mold compound	#1 Silica (fused)	60676-86-0	77.1396	40.1792	401,792
	#2 Carbon Black	1333-86-4	0.1743	0.0908	908
	#3 Epoxy resin	Trade Secret	9.4137	4.9032	49,032
	#4 Phosphoric organic catalyst	Trade Secret	0.4358	0.2270	2,270
	subtotal		87.1634	45.4002	454,002
Solder ball	#1 Tin	7440-31-5	51.5084	26.8288	268,288
	#2 Silver	7440-22-4	1.6013	0.8341	8,341
	#3 Copper	7440-50-8	0.2669	0.1390	1,390
	subtotal		53.3765	27.8018	278,018
TOTAL PACKAGE			191.9892	100.0000	1,000,000

Disclaimer:

In general, four decimal values are shown. However, some variance remains from package to package. The mass values presented are thought to be accurate to within 20 percent. The report does not include materials not intentionally added to our products (impurities), or material concentrations less than 1 ppm.

Document History Page

Document Title: Material Declaration Datasheet (MDDS) - FBGA064 (LAE064) - BKK - Au Wire
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Rev.	ECN No.	Orig. of Change	Description of Change
**	5268305	AAC	Initial Release.