



Package Chemistry Substances Analysis Table

Package Type:	NLB 056 (Pb-free solder balls)
Dimension:	9.2 x 8 x 1.2 mm
Weight of Unit Package:	153 mg
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	9.0797	5.9253	59,253
	subtotal		9.0797	5.9253	59,253
Bond wire	#1 Gold	7440-57-5	1.7578	1.1471	11,471
	subtotal		1.7578	1.1471	11,471
Die Attach	#1 Epoxy resin	Trade Secret	0.4061	0.2650	2,650
	#2 Polytetrafluoroethylene	9002-84-0	0.1188	0.0775	775
	#3 Silica (fused)	60676-86-0	0.0373	0.0243	243
subtotal			0.5622	0.3669	3,669
Substrate	#1 Copper	7440-50-8	4.7481	3.0985	30,985
	#2 Gold	7440-57-5	0.0020	0.0013	13
	#3 Nickel	7440-02-0	0.0118	0.0077	77
	#4 Epoxy resin	Trade Secret	13.6925	8.9355	89,355
	#5 Aluminum Hydroxide	21645-51-2	6.6019	4.3083	43,083
	#6 SiO2 Glass Cloth	65997-17-3	12.9499	8.4509	84,509
subtotal			38.0063	24.8023	248,023
Mold compound	#1 Silica (fused)	60676-86-0	83.3208	54.3739	543,739
	#2 Carbon Black	1333-86-4	0.2451	0.1599	1,599
	#3 Epoxy resin	Trade Secret	13.5764	8.8597	88,597
	#4 Phosphoric organic catalyst	Trade Secret	0.2941	0.1919	1,919
	#5 Metal Oxides	Trade Secret	0.5881	0.3838	3,838
subtotal			98.0244	63.9692	639,692
Solder ball	#1 Tin	7440-31-5	5.7048	3.7229	37,229
	#2 Silver	7440-22-4	0.0697	0.0455	455
	#3 Copper	7440-50-8	0.0290	0.0189	189
	#4 Nickel	7440-02-0	0.0029	0.0019	19
subtotal			5.8064	3.7892	37,892
TOTAL PACKAGE			153.2368	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) - FBGA056 (NLB056) - BKK - Au Wire
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**	5261557	AAC	NEW RELEASE