



## Package Chemistry Substances Analysis Table

<b>Package Type:</b>	VBN 048 (SnPb solder balls)
<b>Dimension:</b>	10 x 6 mm
<b>Weight of Unit Package:</b>	99 mg
<b>Temperature rating:</b>	260°C
<b>MSL:</b>	3
<b>Assembly Location:</b>	BKK
	Product is <b>NOT</b> RoHS Compliant

Description	Chemicals Present	CAS Number	unit weight(mg)	unit weight/package (%)	Amount (ppm)
<b>Silicon Die</b>	#1 Silicon	7440-21-3	12.4819	12.5524	125,524
	subtotal		12.4819	12.5524	125,524
<b>Bond wire</b>	#1 Gold	7440-57-5	0.4472	0.4497	4,497
	subtotal		0.4472	0.4497	4,497
<b>Die Attach</b>	#1 Epoxy resin	Trade Secret	0.1790	0.1800	1,800
	#2 Polytetrafluoroethylene	9002-84-0	0.1465	0.1473	1,473
subtotal			0.3255	0.3273	3,273
<b>Substrate</b>	#1 Brominated Epoxy Resins	Trade Secret	1.8200	1.8303	18,303
	#2 Copper	7440-50-8	12.0960	12.1644	121,644
	#3 Gold	7440-57-5	0.1876	0.1887	1,887
	#4 Nickel	7440-02-0	0.8651	0.8700	8,700
	#5 Epoxy resin	Trade Secret	10.3347	10.3931	103,931
	#6 Silica	14808-60-7	1.5400	1.5487	15,487
	#7 SiO2 Glass Cloth	65997-17-3	6.7200	6.7580	67,580
subtotal			33.5633	33.7530	337,530
<b>Mold compound</b>	#1 Silica (fused)	60676-86-0	38.5331	38.7508	387,508
	#2 Carbon Black	1333-86-4	0.0871	0.0876	876
	#3 Epoxy resin	Trade Secret	4.7023	4.7289	47,289
	#4 Phosphoric organic catalyst	Trade Secret	0.2177	0.2189	2,189
subtotal			43.5402	43.7863	437,863
<b>Solder ball</b>	#1 Tin	7440-31-5	5.7200	5.7523	57,523
	#2 Lead	7439-92-1	3.3600	3.3790	33,790
subtotal			9.0800	9.1313	91,313
<b>TOTAL PACKAGE WEIGHT</b>			<b>99.4381</b>	<b>100.0000</b>	<b>1,000,000</b>

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) - FBGA048 (VBN048) - BKK - Au Wire - Non Pb Free  
Document Number: 002-12879

Rev.	ECN No.	Orig. of Change	Description of Change
**	5261272	AAC	NEW RELEASE