

**LTM8047 45BGA 11.25mm X 9mm X 4.92mm Epoxy (DA) (TABLE OF MATERIAL DECLARATION)**

*The LTM8047 is RoHS compliant per EU RoHS Directive 2003/95/EC.*

It contains less than 100ppm cadmium (Cd) and less than 1,000ppm of each - lead (Pb), mercury (Hg), hexavalent chromium (Cr+), polybrominated biphenyl (PBB) and polybrominated diphenyl ether (PBDE)

No.	Part Name	Material Name	Component Weight (gram)	Materials Analysis (element)	CAS Number	Material Mass (gram)	Materials Analysis (weight %)
1	Substrate	Circuit Board	0.1103	Barium Compounds	7727-43-7	0.00167	1.51
				Filler Substances (Silica Crystalline)	13776-74-4, 7631-86-9	0.02815	25.53
				Copper Metal	7440-50-8	0.05031	45.62
				Copper Compounds	1328-53-6	0.00003	0.02
				Ecotoxic substances	7440-38-2, 7440-28-0	0.00000	0.00
				Gold metal or alloy	7440-57-5	0.00055	0.50
				Nickel	7440-02-0	0.00255	2.31
				Zinc	7440-66-6	0.00004	0.03
				Bismaleimide/Triazine Resin	non-disclosure	0.02212	20.06
				Acrylic Resin	non-disclosure	0.00361	3.27
				Epoxy Resin	non-disclosure	0.00002	0.01
				Silica crytalline	14808-60-7	0.00043	0.39
				Silica amorphous	7631-86-9	0.00002	0.02
				Talc;not containing fibers like asbestos	14807-96-9	0.00022	0.20
				Aromatic Carbonyl compounds	non-disclosure	0.00037	0.34
				Cyanoguanidine	461-58-5	0.00001	0.01
				Amine compounds	non-disclosure	0.00006	0.05
				Leveling agent and others	non-disclosure	0.00014	0.13
2	Solder Paste	Alloy	0.0035	Sn	7440-31-5	0.00328	95.00
				Sb	7440-36-0	0.00017	5.00
3	Epoxy		0.0092	Di-ester resin	non-disclosure	0.00092	0.10
				Functionalized ester	non-disclosure	0.00092	0.10
				Silver	7440-22-4	0.00736	0.80
4	Passive/Active Components		0.2405	Ni Oxide	1313-99-1	0.02060	8.57
				Cu Oxide	1317-38-0	0.00693	2.88
				Zn Oxide	1314-13-2	0.03137	13.04
				Fe Oxide	1309-37-1	0.11432	47.53
				iron Powder (Fe)	7439-89-6	0.00335	1.39
				Copper (Cu)	7440-50-8	0.04893	20.34
				Nickel (Ni)	7440-02-0	0.00141	0.58
				Tin (Sn)	7440-31-5	0.00352	1.46
				Ceramic (Ba Compounds)	12047-27-7	0.01008	4.19
5	Active IC's	Silicon	0.0032	Silicon	7440-21-3	0.00322	100.00
6	Wire	Gold	0.0002	Au	7440-57-5	0.00023	99.99
7	Solder Ball		0.0756	Sn	7440-31-5	0.07292	96.50
				Ag	7440-22-4	0.00227	3.00
				Cu	7440-50-8	0.00038	0.50
8	Encapsulation	Epoxy Resin	0.6278	Fused Silica	60676-86-0	0.48464	77.20
				Epoxy Resin	non-disclosure	0.05587	8.90
				Phenol Resin	non-disclosure	0.05587	8.90
				Crytalline Silica	14808-60-7	0.01883	3.00
				Carbon Black	1333-86-4	0.00314	0.50
				Metal Hydroxide	non-disclosure	0.00942	1.50
Total Package Weight			1.0702				

Note: Composition derived from MSDS and material C of C from Vendors; Component Weight based on assembly of generic parts

**LTM8047Y 45-BGA 11.25mm X 9mm X 4.92mm Solder (DA) (TABLE OF MATERIAL DECLARATION)**

*The LTM8047 is RoHS compliant per EU RoHS Directive 2003/95/EC.*

It contains less than 100ppm cadmium (Cd) and less than 1,000ppm of each - lead (Pb), mercury (Hg), hexavalent chromium (Cr+), polybrominated biphenyl (PBB) and polybrominated diphenyl ether (PBDE)

No.	Part Name	Material Name	Component Weight (gram)	Materials Analysis (element)	CAS Number	Material Mass (gram)	Materials Analysis (weight %)
1	Substrate	Circuit Board	0.1103	Barium Compounds	7727-43-7	0.00167	1.51
				Filler Substances (Silica Crystalline)	13776-74-4, 7631-86-9	0.02815	25.53
				Copper Metal	7440-50-8	0.05031	45.62
				Copper Compounds	1328-53-6	0.00003	0.02
				Ecotoxic substances	7440-38-2,7440-28-0	0.00000	0.00
				Gold metal or alloy	7440-57-5	0.00055	0.50
				Nickel	7440-02-0	0.00255	2.31
				Zinc	7440-66-6	0.00004	0.03
				Bismaleimide/Triazine Resin	non-disclosure	0.02212	20.06
				Acrylic Resin	non-disclosure	0.00361	3.27
				Epoxy Resin	non-disclosure	0.00002	0.01
				Silica crytalline	14808-60-7	0.00043	0.39
				Silica amorphous	7631-86-9	0.00002	0.02
				Talc;not containing fibers like asbestos	14807-96-9	0.00022	0.20
				Aromatic Carbonyl compounds	non-disclosure	0.00037	0.34
				Cyanoguanidine	461-58-5	0.00001	0.01
				Amine compounds	non-disclosure	0.00006	0.05
				Leveling agent and others	non-disclosure	0.00014	0.13
2	Solder Paste	Alloy	0.0056	Sn	7440-31-5	0.00532	95.00
				Sb	7440-36-0	0.00028	5.00
3	Passive/Active Components		0.2405	Ni Oxide	1313-99-1	0.02060	8.57
				Cu Oxide	1317-38-0	0.00693	2.88
				Zn Oxide	1314-13-2	0.03137	13.04
				Fe Oxide	1309-37-1	0.11432	47.53
				iron Powder (Fe)	7439-89-6	0.00335	1.39
				Copper (Cu)	7440-50-8	0.04893	20.34
				Nickel (Ni)	7440-02-0	0.00141	0.58
				Tin (Sn)	7440-31-5	0.00352	1.46
				Ceramic (Ba Compounds)	12047-27-7	0.01008	4.19
4	Active IC's	Silicon	0.0032	Silicon	7440-21-3	0.00322	100.00
5	Wire	Gold	0.0002	Au	7440-57-5	0.00023	99.99
6	Solder Ball		0.0756	Sn	7440-31-5	0.07292	96.50
				Ag	7440-22-4	0.00227	3.00
				Cu	7440-50-8	0.00038	0.50
7	Encapsulation	Epoxy Resin	0.6278	Fused Silica	60676-86-0	0.48464	77.20
				Epoxy Resin	non-disclosure	0.05587	8.90
				Phenol Resin	non-disclosure	0.05587	8.90
				Crytalline Silica	14808-60-7	0.01883	3.00
				Carbon Black	1333-86-4	0.00314	0.50
				Metal Hydroxide	non-disclosure	0.00942	1.50
Total Package Weight			1.0631				

Note: Composition derived from MSDS and material C of C from Vendors; Component Weight based on assembly of generic parts