ALLIANCE MEMORY MDS REPORT

Part Number:	AS4C512M16D4-75BCN/BIN
Part Weight(mg):	201.906

No.	Part Name	Material Name	Material Part no.	Component wt (mg)	Substance in Materials	CAS Number	Element wt (%)	wt% of Total unit wt	Substance Weight (mg)	PPM
1	Substrate	Substrate_CCL	NPG-180INBK	9.9905	E-Glass Farbic	65997-17-3	40.000%	1.9792%	3.9962	400000
					Epoxy Resin	29690-82-2	20.000%	0.9896%	1.9981	200000
					Filler	14808-60-7	30.000%	1.4844%	2.9972	300000
					Phosphorus Flame Restardant	35948-25-5	10.000%	0.4948%	0.9991	100000
		Copper Foil	Copper foil	5.3795	Copper	7440-50-8	100.000%	2.6644%	5.3795	1000000
		Solder mask	AUS308 (PSR-4000/ CA-40)	9.4900	Acrylic resin	Trade Secret	20.000%	0.9400%	1.8980	200000
					Barium Sulfate	7727-43-7	10.350%	0.4865%	0.9822	103500
					3-Methoxy-3-Methyl Butyl-Acetate	103429-90-9	10.000%	0.4700%	0.9490	100000
					Dipropylene glycol monomethyl ether	34590-94-8	2.850%	0.1340%	0.2705	28500
					Talc containing no asbestiform fibers	14807-96-6	0.350%	0.0165%	0.0332	3500
					photoplymerization	Trade Secret	0.350%	0.0165%	0.0332	3500
					Solvent naphtha	64742-94-5	0.350%	0.0165%	0.0332	3500
					auxiliaries；additives	Trade Secret	0.350%	0.0165%	0.0332	3500
					SiO2 Compounds	Trade Secret	0.500%	0.0235%	0.0475	5000
					Phthalocyanine Green G	Trade Secret	0.500%	0.0235%	0.0475	5000
					organic pigments	Trade Secret	0.500%	0.0235%	0.0475	5000
					Acrylic resin	Trade Secret	10.000%	0.4700%	0.9490	100000
					Epoxy resins	Trade Secret	22.850%	1.0740%	2.1685	228500
					organic fillers	Trade Secret	0.350%	0.0165%	0.0332	3500
					Barium Sulfate	7727-43-7	10.350%	0.4865%	0.9822	103500
					Dipropylene glycol monomethyl ether	34590-94-8	10.000%	0.4700%	0.9490	100000
					3-Methoxy-3-Methyl Butyl-Acetate	103429-90-9	0.350%	0.0165%	0.0332	3500
		Copper Plating	Copper	30.9100	Copper	7440-50-8	100.000%	15.3091%	30.9100	1000000
		Nickel plating	Nickel	15.3900	Nickel	7440-02-0	100.000%	7.6224%	15.3900	1000000
		Gold Plating	Gold	1.8400	Gold	7440-57-5	100.000%	0.9113%	1.8400	1000000
2	Compound	Resin	CEL-9120HF	56.1311	Epoxy resin	Trade secret	5.010%	1.3928%	2.8122	50100
					Hardener	Trade secret	5.110%	1.4206%	2.8683	51100
					Carbon black	1333-86-4	0.160%	0.0445%	0.0898	1600
					Amorphous silica	60676-86-0	86.490%	24.0447%	48.5478	864900
					Crystaline silica	14808-60-7	3.230%	0.8980%	1.8130	32300
3	Die Adhesive	Epoxy	6202C	3.0400	2-(2-Ethoxyethoxy)ethyl acetate	112-15-2	36.500%	0.5496%	1.1096	365000
					Butadiene, acrylonitrile polymer, carboxy-terminated, polymer with bisphenol A and epichlorohydrin	68610-41-3	28.000%	0.4216%	0.8512	280000
					Isodecyl alcohol, ethoxylated	61827-42-7	10.000%	0.1506%	0.3040	100000
					Silica Filler	112926-00-8	25.000%	0.3764%	0.7600	250000
					Tert-butyl peroxyneodecanoate	26748-41-4	0.500%	0.0075%	0.0152	5000
4	Solder Ball	Metal	M705	33.8781	Tin	7440-31-5	96.500%	16.1919%	32.6924	965000
					Silver	7440-22-4	3.000%	0.5034%	1.0163	30000
					Copper	7440-50-8	0.500%	0.0839%	0.1694	5000
5	Gold Wire	Metal	4N	0.2828	Gold	7440-57-5	100.000%	0.1401%	0.2828	1000000
6	Chip	Silicon	20nm	35.5740	Silicon	7440-21-3	99.682%	17.5631%	35.4609	996820
					Aluminum	7429-90-5	0.149%	0.0263%	0.0530	1490
					Tungston	7440-33-7	0.106%	0.0187%	0.0377	1060
					Titanium	7440-32-6	0.042%	0.0074%	0.0149	420
					Boron	7440-42-8	0.006%	0.0011%	0.0021	60
					Arsenic	7440-38-2	0.003%	0.0005%	0.0011	30
					Phosphorous	7723-14-0	0.004%	0.0007%	0.0014	40
					Copper	7440-50-8	0.005%	0.0009%	0.0018	50
					Fluorine	7782-41-4	0.003%	0.0005%	0.0011	30
				201.9060				100.0000%	201.9060	

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