

**Model 93 material declaration. BI Technologies Corporation**

10/3/2013

LF and non-LF option content are identical after 2/1/2005

No content is banned per E.U. RoHS. Average mass of 93 trimmer is 1.4 grams each. Prepared by Eric Arnold (714) 447-2565

Weights above 1 milligram rounded to the nearest mg. Values less than 1 milligram given in scientific notation.

Sub-component	Material	% of total mass	Substance name	CAS #	Substance Weight (grams)	Special classification	
Housing	PBT blend	28.4%	PBT	26062-94-2	0.302		
			Fiberglass	65997-17-3	0.080		
			Carbon black	1333-86-4	0.004		
			Sb	7440-36-0	0.004		
			SbO	1309-64-4	0.012		Fire retardant
Rotor	PBT blend	11.8%	PBT	26062-94-2	0.112		
			Fiberglass	65997-17-3	0.050		
			SbO	1309-64-4	0.005		
Contact	Cu alloy wire	0.10%	Cu	7440-50-8	7.54E-04		
			Zn	7440-66-6	3.70E-04		
			Ni	7440-02-0	2.47E-04		
	Nickel alloy bar	0.07%	Cu	7440-50-8	5.00E-07		
			Ni	7440-02-0	8.46E-04		
			C	7440-44-0	6.00E-07		
			Mn	7439-96-5	2.50E-06		
			Fe	7439-89-6	1.50E-04		
			S	7704-34-9	5.00E-08		
			Si	7440-21-3	5.00E-07		
Terminals	Cu wire	9.5%	Cu	7440-50-8	0.134		
	Sn plating	0.31%	Sn	7440-31-5	4.37E-03		
Potting	Epoxy	18.3%	SiO2, amorphous	7631-86-9	0.013		
			modified aliphatic polyamine	trade secret	0.052		
			hydantoin epoxy resin	15336-82-0	0.013		
			epichlorohydrin / polyglycol epoxy resin	26142-30-3	0.013		
			epichlorohydrin/bisphenol A epoxy resin	unknown	0.155		BPA
			cycloaliphatic epoxy resin	2386-87-0	0.013		
Substrate	Alumina	31.6%	Al2O3	1344-28-1	0.430		
			SiO2, amorphous	7631-86-9	0.004		
			TiO2	13463-67-7	0.002		
			FeO2	1345-25-1	0.002		
			MnO2	1313-13-9	0.004		
			MgO	1309-48-4	0.002		
			CaO	1305-78-8	0.002		
			Conductor	AgPd thick film	0.04%		Al2O3
SiO2, amorphous	7631-86-9	1.63E-05					
TiO2	13463-67-7	3.73E-06					
PbO	1317-36-8	2.23E-05				Pb in electronic ceramic (RoHS 7c-1)	
ZnO	1314-13-2	4.05E-06					
B2O3	1303-86-2	1.37E-06					
ZrO2	1314-23-4	3.30E-07					
BaO	1304-28-5	4.23E-06					
Ag	7440-22-4	4.44E-04					
Pd	7440-05-3	4.95E-05					
Resistor	Ruthenate thick film	0.04%	Al2O3	1344-28-1	6.64E-06		
			SiO2, amorphous	7631-86-9	5.58E-05		
			TiO2	13463-67-7	6.64E-06		
			MnO2	1313-13-9	3.00E-06		
			PbO	1317-36-8	1.46E-04		Pb in electronic ceramic (RoHS 7c-1)
			ZnO	1314-13-2	1.60E-05		
			B2O3	1303-86-2	1.87E-05		
			ZrO2	1314-23-4	4.48E-06		
			BaO	1304-28-5	7.55E-06		
			Ag	7440-22-4	1.80E-05		
			Pd	7440-05-3	2.30E-05		
			Steatite	14807-96-6	1.00E-06		
			Bi2Ru2O6	unknown	2.25E-05		
			Pb2Ru2O6+x	unknown	1.60E-04		Pb in electronic ceramic (RoHS 7c-1)
			RuO2	12036-10-1	1.05E-05		