Package Material Composition and Mass Calculation

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Customer : NVL
Package : VFQFN 40L 5x5x0.9PKG
Device Type : nRF52820-QDAA#7
Die Size(mm) : 2.549x2.549
Total Pkg. Wt (mg): **76.02**

Provided By : Doris Chao
Date : 3/26/2021
Rev. :

	name	vendor	material composition	CAS No.	%	mg.(ave)	mg.	%	PPM
Mold Compound	EME-G700LA TypeL	SUMITOMO					32.50	42.750%	427,496
			Epoxy Resin	Trade secret	5-10%	2.92500		3.847%	38,475
			Phenol Resin	Trade secret	1-5%	0.97500		1.282%	12,825
			Silica(Amorphous) A	60676-86-0	70-80%	25.57750		33.644%	336,439
			Silica(Amorphous) B	7631-86-9	5-10%	2.92500		3.847%	38,475
			Carbon black	1333-86-4	0.1 - 1%	0.09750		0.128%	1,282
Leadframe	C194_Ag	SHINKO					38.39	50.500%	505.003
			Copper(Cu)	7440-50-8	96.52%	37.05632		48.743%	487,429
			Iron(Fe)	7439-89-6	2.30%	0.88302		1.162%	11,615
			Phosphorus(P)	7723-14-0	0.03%	0.01152		0.015%	152
			Zinc(Zn)	7440-66-6	0.15%	0.05759		0.076%	758
			Silver(Ag)	7440-22-4	1.00%	0.38392		0.505%	5,050
Die_1	Silicon		Silicon	7440-21-3	100%		3.17	4.168%	41,680
Die Attach 1	EN-4900G*	Showa Denko					0.56	0.738%	7,381
			Silver(Ag)	7440-22-4	72-82%	0.41523		0.546%	5,462
			Acrylic resin	Trade secret	6-11%	0.05050		0.066%	664
			Polybutadiene derivative	Trade secret	2-9%	0.02806		0.037%	369
			Butadiene copolymer	Trade secret	< 2.0 %	0.00842		0.011%	111
			Acrylate	Trade secret	3-8%	0.03367		0.044%	443
			Epoxy resin	Trade secret	1-4%	0.01403		0.018%	185
			Peroxide	Trade secret	< 1.0%	0.00281		0.004%	37
			Additive	Trade secret	< 2.0%	0.00842		0.011%	111
Wire 1	Cu wire	NIPPON					0.23	0.304%	3,044
			Copper(Cu)	7440-50-8	≥96.55%	0.23047		0.3032%	3,032
			Palladium(Pd)	7440-05-3	≤3.1%	0.00028		0.0004%	4
			Gold(Au)	7440-57-5	≤0.35%	0.00069		0.0009%	9
External Plating	Sn plating	SHENMAO					1.17	1.540%	15,396
			Tin(Sn)	7440-31-5	>99.97%	1.17049		1.540%	15,396
Total							**76.02**	**100%**	**1000000**

DISCLAIMER
- The above material declaration can be used only as reference in identifying the Hazardous material content of the product.
- ASE does not guarantee the Material composition accuracy as it is based on the data provided by outside sources and has not been validated.
- This material declaration does not include data from any active and passive component assembled in the package.
- Due to Leadframe and substrate is belong "re-make product" by other homogeneous material , so it's composition will be different with SDS