



Package Material Composition and Mass Calculation

Customer : NVL
 Package : VFQFN 24L 4x4x0.9PKG
 Device Type : nPM1100-QDAB#9
 Die Size(mm) : 2.1000x2.1000
 Estimate Pkg. Wt (mg) **48.72**

Provided By : Doris Chao
 Date : 03/02/2023
 Code : 95-21-0000-0001/07/02

	name	vendor	material composition	CAS No.	%	mg.(ave)	mg.	%	PPM		
Mold Compound	EME-G700LA TypeL-A	SUMITOMO	Epoxy Resin	Trade secret	5-10%	1.87200	20.80	42.692%	426.925		
			Phenol Resin	Trade secret	1-5%	0.62400				3.842%	38.423
			Silica(Amorphous) A	60676-86-0	70-80%	16.36960				33.599%	335.990
			Silica(Amorphous) B	7631-86-9	5-10%	1.87200				3.842%	38.423
			Carbon black	1333-86-4	0.1 - 1%	0.06240				0.128%	1.281
LEADFRAME	C194_Ag	MITSUI(MJA)	Copper(Cu)	7440-50-8	97.22%	23.88804	24.57	50.433%	504.328		
			Iron(Fe)	7439-89-6	2.29%	0.56268				1.155%	11.549
			Zinc(Zn)	7440-66-6	0.15%	0.03686				0.076%	756
			Phosphorus(P)	7723-14-0	0.03%	0.00737				0.015%	151
			Silver(Ag)	7440-22-4	0.31%	0.07617				0.156%	1,563
Die_1	Silicon		Silicon	7440-21-3	100%		2.15	4.414%	44,143		
Die Attach_1	EN-4900G*	Resonac	Silver(Ag)	7440-22-4	72-82%	0.28183	0.38	0.782%	7,817		
			Cresol Novolac Epoxy Resins	Trade secret	1-4%	0.00952				0.578%	5,785
			Bisphenol A Diacrylate	Trade secret	6-11%	0.03428				0.020%	195
			Dicylopentenyl group containii	Trade secret	3-8%	0.02285				0.070%	704
			Butadiene copolymer	Trade secret	<2.0%	0.00571				0.047%	469
			Polybutadiene epoxidized deriv	Trade secret	2-9%	0.01904				0.012%	117
			Peroxy Ketals	Trade secret	< 1.0%	0.01904				0.039%	391
			Substitutedalkoxyalkyl trimetho	Trade secret	< 1.0%	0.00190				0.004%	39
			Methacrylate multialkoxysubstit	Trade secret	< 1.0%	0.00286				0.006%	59
Wire_2	Cu wire	NIPPON	Copper(Cu)	7440-50-8	≥96.55%	0.09782	0.10	0.202%	2,016		
			Palladium(Pd)	7440-05-3	≤3.1%	0.00012				0.2008%	2,008
			Gold(Au)	7440-57-5	≤0.35%	0.00029				0.0002%	2
External Plating	Sn plating	SHENMAO	Tin(Sn)	7440-31-5	>99.97%	0.71967	0.72	1.477%	14,771		
Total							48.72	100%	1000000		

DISCLAIMER

- The above material declaration be able to use only as reference in identifying the Hazardous material content of the product and the estimated weight of IC package.
- ASECL verify the content substances based on the SDS report provided by each raw material vendor, not the material composition of the final product.
- ASECL's suppliers consider certain information proprietary, thus, CAS numbers and other limited information may not be available for release.
- Lead frame and substrate are belong to "re-make product" by other homogeneous material. As a result, the composition will be different with SDS report.