

 Package Material Content Declaration							
Package Description	100-Ball, 9 x 9 x 1.20 mm, 0.80 mm Pitch, 10 x 10 Array, Thin-Profile Fine-Pitch Ball Grid Array Package (TFBGA)						
Lead Finish	Tin-Silver-Copper (Sn-Ag-Cu)		Package Code / GPC	CQB / CPR			
J-STD-609 Category	e8		Termination Base Alloy:	Other			
Package Material Declaration							
Material	Substance	CAS #	Weight (mg)	Homogeneous Material		Package	
				Percentage	ppm	Percentage	ppm
Integrated Circuit	Silicon (Si)	7440-21-3	11.948	100.0	1000000	8.56	85579
Sub-Total			11.948	100.0	1000000	8.56	85579
Die Attach	Silver (Ag)	7440-22-4	0.836	81.5	815000	0.60	5987
	Di-ester Resin	Proprietary	0.079	7.7	77000	0.06	566
	Functionalized Ester Resin	Proprietary	0.079	7.7	77000	0.06	566
	Polymeric Material	Proprietary	0.032	3.1	31000	0.02	228
Sub-Total			1.026	100.0	1000000	0.73	7346
Bond Wire	Copper (Cu)	7440-50-8	0.392	97.6	976000	0.28	2808
	Palladium (Pd)	7440-05-3	0.010	2.4	24000	0.01	69
Sub-Total			0.402	100.0	1000000	0.29	2877
Encapsulation	Silica Fused	60676-86-0	62.937	89.8	898000	45.08	450806
	Epoxy Resin	Proprietary	3.995	5.7	57000	2.86	28615
	Phenol Resin	Proprietary	2.944	4.2	42000	2.11	21084
	Carbon Black	1333-86-4	0.210	0.3	3000	0.15	1506
Sub-Total			70.086	100.0	1000000	50.20	502011
Laminate	Copper (Cu)	7440-50-8	12.470	41.7	417000	8.93	89324
	Filament Fiber Glass	65997-17-3	6.729	22.5	225000	4.82	48196
	BT Epoxy Resin	Proprietary	6.729	22.5	225000	4.82	48196
	Inorganic Filler	21645-51-2	3.977	13.3	133000	2.85	28489
Sub-Total			29.905	100.0	1000000	21.42	214206
Soldermask	Acrylate Resin	Proprietary	0.713	41.0	410000	0.51	5104
	Barium Sulfate	7727-43-7	0.558	32.1	321000	0.40	3996
	Epoxy Resin	Proprietary	0.278	16.0	160000	0.20	1992
	Organic Compounds	Proprietary	0.123	7.1	71000	0.09	884
	Talc	14807-96-6	0.049	2.8	28000	0.03	349
	Silica	7631-86-9	0.012	0.7	7000	0.01	87
	Phthalocyanine Blue	147-14-8	0.005	0.3	3000	0.00	37
Sub-Total			1.738	100.0	1000000	1.24	12450
Solder Ball	Tin (Sn)	7440-31-5	24.138	98.5	985000	17.29	172899
	Silver (Ag)	7440-22-4	0.245	1.0	10000	0.18	1755
	Copper (Cu)	7440-50-8	0.123	0.5	5000	0.09	878
Sub-Total			24.506	100.0	1000000	17.55	175532
Total			139.609			100.00	1000000

This semiconductor device and its homogenous materials comply with EU Directives: 2002/95/EC (27 January 2003) & Directive 2011/65/EU (08 June 2011) and 2015/863/EU (31 March 2015) and 2002/53/EC (End-of-Life Vehicles (ELV) without exemption (zero).

Compliance with the above EU Directives has been verified via internal design controls, supplier declarations, and /or analytical test data.

If a chemical substance is absent from the list above, the chemical substance is NOT an intentional ingredient in the semiconductor device and, to the best of Microchip Technology Incorporated's knowledge and belief as of the date of this document, there is no credible reason to believe that the unavoidable impurity concentration of the chemical substance, if any, is not below the threshold of regulatory concern for any regulatory scheme world-wide.

Molding compounds used by Microchip meet the UL94 V0 flammability standard for plastics. You can access the UL iQTM family of databases to obtain a test report at <http://ul.com/global/eng/pages/offerings/industries/chemicals/plastics/>.

The protective "tubes" in which the specific product is shipped are made from polyvinyl chloride (PVC) plastic. "Window envelopes" used to hold the packing slip on the outer box and certain "reels" may be made from PVC plastic.

Microchip Technology Incorporated believes the information in this form concerning substances restricted by RoHS in Microchip Technology Incorporated's semiconductor devices in their original packing materials is true and correct to the best of its knowledge and belief, as of the date listed in this form. Microchip Technology Incorporated cannot guarantee the completeness and accuracy of data in this form because it has been compiled based on the ranges provided in Material Safety Data Sheets provided by raw material suppliers. Supplier information is often protected from disclosure as trade secrets and some information may not have been provided by subcontract assemblers and raw material suppliers. Information is provided only as estimates of the average weight of these parts and the average weight of anticipated significant toxic metals components. These estimates do not include trace levels of dopants, metals, and non-metal materials contained within silicon devices (silicon IC) in the finished parts.

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Assembled package referenced above is EU REACH compliant based on the latest SVHC candidate list of ECHA which can be found at <http://echa.europa.eu/web/guest/candidate-list-table>.