


MICROCHIP

Package Material Content Declaration

Package Description	64-Ball, 8 x 8 Array, 0.4 mm Pitch, Wafer Level Chip Scale Package (WLCSP)						
Lead Finish	Tin-Silver-Copper (Sn-Ag-Cu)		Package Code / GPC	G7B / GJK			
J-STD-609 Category	e1		Termination Base Alloy:	Other			
Package Material Declaration							
Material	Substance	CAS #	Weight (mg)	Homogeneous Material		Package	
				Percentage	ppm	Percentage	ppm
Backside Coating	Silica	Proprietary	0.670	66.7	667000	4.92	49241
	Epoxy Resin	Proprietary	0.137	13.6	136000	1.00	10040
	Acrylic Polymer	Proprietary	0.137	13.6	136000	1.00	10040
	Carbon Black	1333-86-4	0.061	6.1	61000	0.45	4503
Sub-Total			1.005	100.0	1000000	7.38	73824
Integrated Circuit	Silicon (Si)	7440-21-3	8.425	100.0	1000000	61.91	619135
Sub-Total			8.425	100.0	1000000	61.91	619135
PBO Layer	4-Butyrolactone	96-48-0	0.123	53.2	532000	0.90	9010
	Non Regulated Ingredients	Proprietary	0.085	36.8	368000	0.62	6233
	1-Methoxy-2-propyl Acetate	108-65-6	0.019	8.4	84000	0.14	1423
	Ethanol	64-17-5	0.002	0.8	8000	0.01	135
	N-Methyl-2-pyrrolidone	872-50-4	0.002	0.8	8000	0.01	135
Sub-Total			0.230	100.0	1000000	1.69	16937
Redistribution Layer	Aluminum (Al)	7429-90-5	0.031	69.2	692000	0.23	2250
	Titanium (Ti)	7440-32-6	0.014	30.8	308000	0.10	1002
Sub-Total			0.044	100.0	1000000	0.33	3252
Underbump Metal	Copper (Cu)	7440-50-8	0.023	58.9	589000	0.17	1708
	Aluminum (Al)	7429-90-5	0.008	21.5	215000	0.06	624
	Nickel (Ni)	7440-02-0	0.005	11.7	117000	0.03	339
	Vanadium (V)	7440-62-2	0.003	7.9	79000	0.02	229
Sub-Total			0.039	100.0	1000000	0.29	2900
Solder Ball	Tin (Sn)	7440-31-5	3.690	95.5	955000	27.12	271174
	Silver (Ag)	7440-22-4	0.155	4.0	40000	1.14	11358
	Copper (Cu)	7440-50-8	0.019	0.5	5000	0.14	1420
Sub-Total			3.864	100.0	1000000	28.40	283952
Total			13.608			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/offering/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>.