



Semiconductor Device Type: SZ-C0 144 WFBGA 9x9x0.8mm SAC (SZX)				Termination Base Alloy: Copper Alloy (Cu)			Package Homogeneous Materials: 8.1 Electronics (e.g. pc boards, displays)			JEDEC 97 Product Marking and/or Pkg. Labeling e8
Basic Substance	CAS Number	Contained in Sub-Component	% Total Weight	mg/part	ppm					
						64.62	(mg) Total	Mold Compound	% of Total Weight	50.37
Silica(Amorphous) A	60676-86-0	Mold Compound	37.929	48.662	379,286	Silica(Amorphous) A		60676-86-0	75.30	
Silica(Amorphous) B	7631-86-9	Mold Compound	5.057	6.488	50,571	Silica(Amorphous) B		7631-86-9	10.04	
Epoxy Resin	Trade Secret	Mold Compound	4.075	5.228	40,749	Epoxy Resin		Trade Secret	8.09	
Phenol Resin	9003-35-4	Mold Compound	1.516	1.945	15,161	Phenol Resin		9003-35-4	3.01	
Aluminium and its compounds	Trade Secret	Mold Compound	1.516	1.945	15,161	Aluminium and its compounds		Trade Secret	3.01	
Carbon Black	1333-86-4	Mold Compound	0.277	0.355	2,770	Carbon Black		1333-86-4	0.55	
Copper	7440-50-8	Lead Frame	15.204	19.506	152,037					
Glass fibers	65997-17-3	Lead Frame	9.063	11.628	90,629					
Phenol, polymer	9003-36-5	Lead Frame	9.063	11.628	90,629					
Silica, chemically prepared	7631-86-9	Lead Frame	3.388	4.347	33,880					
Nickel	7440-02-0	Lead Frame	1.652	2.119	16,517					
Barite	7727-43-7	Lead Frame	1.059	1.358	10,588					
Magnesium silicate	14807-96-6	Lead Frame	0.847	1.087	8,470					
Araldite GY 250	25068-38-6	Lead Frame	0.847	1.087	8,470					
(2-Methoxymethylethoxy)propanol	34590-94-8	Lead Frame	0.339	0.435	3,388					
Misc. system		Lead Frame	0.635	0.815	6,353					
Aluminium-hydroxide-oxide	24623-77-6	Lead Frame	0.212	0.272	2,118					
Gold	7440-57-5	Lead Frame	0.042	0.054	424					
(Metha)Acrylic Copolymer	Trade Secret	Die Attach	0.014	0.017	136					
Epoxy Resin	Trade Secret	Die Attach	0.003	0.004	28					
Phenol Resin	Trade Secret	Die Attach	0.003	0.004	28					
SiO2 Filler	Trade Secret	Die Attach	0.001	0.001	8					
Silicon	7440-21-3	Chip (Die)	0.130	0.167	1,300					
Copper	7440-50-8	Wire Bond Copper palladium coated (CuPd)	0.422	0.542	4,225					
Palladium	7440-05-3	Wire Bond Copper palladium coated (CuPd)	0.008	0.010	75					
Tin	7440-31-5	Plating on external leads (pins) (SAC105)	6.600	8.467	65,995					
Silver	7440-22-4	Plating on external leads (pins) (SAC105)	0.067	0.086	670					
Copper	7440-50-8	Plating on external leads (pins) (SAC105)	0.034	0.043	335					
0.1283 g Total Mass			TOTALS:	100.000	128.300	1,000,000				
						0.03	(mg) Total	Die Attach	% of Total Weight	0.02
						(Metha)Acrylic Copolymer		Trade Secret	68.00	
						Epoxy Resin		Trade Secret	14.00	
						Phenol Resin		Trade Secret	14.00	
						SiO2 Filler		Trade Secret	4.00	
								Total	100.00	
						0.17	(mg) Total	Chip (Die)	% of Total Weight	0.13
						Doped Silicon		7440-21-3	100.00	
								Total	100.00	
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)						0.55	(mg) Total	Wire Bond Copper palladium coated (CuPd)	% of Total Weight	0.43
Compliance with the above EU Directives has been verified via internal design controls, supplier declarations, and /or analytical test data.						Copper		7440-50-8	98.25	
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.						Palladium		7440-05-3	1.75	
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/								Total	100.00	
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.						8.60	(mg) Total	Plating on external leads (pins) (SAC105)	% of Total Weight	6.7
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.						Tin		7440-31-5	98.50	
Microchip Technology Incorporated does not provide any warranty, express or implied, with respect to the information provided in this declaration. The exclusive, limited product warranties provided by Microchip Technology Incorporated and its subsidiaries are contained in Microchip's standard terms and conditions of sale. These are provided in Microchip's quotations, sales order acknowledgement, and invoices.						Silver		7440-22-4	1.00	
Microchip disclaims any duty to notify users of updates or changes to Material Content Declarations and shall not be liable for any damages, direct or indirect, consequential or otherwise, suffered by users or third parties as a result of the users' reliance on the information in Material Content Declarations (MCD) or independent third party test reports (SGS) or of this Certificate of Compliance for semiconductor products.						Copper		7440-50-8	0.50	
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								Total	100.00	