Chemicals contained in products

EPSON
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Package-type

Epson Package name； **QFP5-80PIN-S2**
JEITA Package name； **P-QFP080-1420-0.80**
Terminal plating； **Lead(Pb) Free**
Weight； **1.75** [g]*Note1

Part	Subpart	Subpart weight [mg]	Substance name	CAS No.	Content *Note2 [mg]	[ppm]	Application
IC Die	IC Die	66	Silicon	7440-21-3	66	999895	Base material
			Boron	7440-42-8	0.0001	2	Dopant
			Phosphorus	7723-14-0	0.0003	5	Dopant
			Aluminum	7429-90-5	0.001	20	Metalization
			Arsenic *Note3	7440-38-2	0.0003	5	Dopant
			Fluorine *Note3	7782-41-4	0.0001	2	Dopant
			Titanium *Note3	7440-32-6	0.001	20	Metalization
			Molybdenum *Note3	7439-98-7	0.001	20	Metalization
			Tungsten *Note3	7440-33-7	0.002	30	Metalization
			Cobalt *Note3	7440-48-4	0.0001	2	Metalization
	Stress buffer coat	1.3	Polyimide	-	1.3	1000000	Stress buffer coat *Note4
Package	Die Bonding material	2.5	Silver	7440-22-4	1.7	682731	Base material
			Epoxy resin	-	0.51	204819	Adhesive
			Phenol resin	-	0.18	72289	Adhesive
			Inorganic powder	-	0.10	40161	Additive
	Lead Frame Plating	27	Tin	7440-31-5	26	980023	Solder
			Bismuth	7440-69-9	0.53	19977	Solder
	Lead Frame	342	Copper	7440-50-8	323	944981	Conductor
			Silver	7440-22-4	1.7	4975	Inner lead plating
			Others *Note5	-	17	50044	Additive
	Bonding Wire	3.1	Gold	7440-57-5	3.1	1000000	Conductor
	Mold resin	1306	Epoxy resin	-	144	110010	Base material
			Antimony trioxide	1309-64-4	11	8038	Flame retardant
			Halogenated compound(Brominations epoxy)	-	11	8038	Flame retardant
			Silica	60676-86-0/-	984	753378	Filler
			Carbon black	1333-86-4	13	10029	Coloring agent
			Hardening chemical(ex:Phenol resin)	-	144	110010	Base material
			Organic phosphorous compound	-	0.65	498	Hardening accelerator

Regarding the information of chemical substances

*Note1 The weight might be somewhat different depending on an individual built-in IC-chip specification like the size etc.
*Note2 Content data are estimated values based on supplier information and intended levels of content in product.
Actual measurements may vary from these values somewhat.
*Note3 Use or not-use of these substances depends on individual built-in IC-chip specification.
*Note4 The stress buffer coat may not be used depending on the individual model.
*Note5 The nickel, zinc, tin, silicon, iron, and the zinc oxide are included for the Cu type. And the carbon, silicon, and manganese are included for 42alloy type.