**Device Type:** QGC LFBGA_400_17x17x1.51_SAC105

| Basic Substance | CAS Number | "Contained In" Sub-Component | % Total Weight | mg/part | ppm |
|---|---|---|---|---|---|
| Silica | 60676-86-0 | Mold Compound | 32.440 | 316.100 | 324,404 |
| Resin | Trade Secret | Mold Compound | 6.106 | 59.500 | 61,063 |
| Carbon Black | 1333-86-4 | Mold Compound | 0.082 | 0.800 | 821 |
| Bismaleimide | 13676-54-5 | Substrate | 29.341 | 285.900 | 293,410 |
| Copper | 7440-50-8 | Substrate | 14.275 | 139.100 | 142,754 |
| Gold | 7440-57-5 | Substrate | 0.174 | 1.700 | 1,745 |
| Nickel | 7440-02-0 | Substrate | 0.903 | 8.800 | 9,031 |
| Silicon | 7440-21-3 | Die | 3.058 | 29.800 | 30,583 |
| Silver | 7440-22-4 | Die Attach Epoxy | 0.267 | 2.600 | 2,668 |
| Epoxy Resin | Trade Secret | Die Attach Epoxy | 0.082 | 0.800 | 821 |
| Tin | 7440-31-5 | Solder Ball | 11.915 | 116.100 | 119,150 |
| Silver | 7440-22-4 | Solder Ball | 0.123 | 1.200 | 1,232 |
| Copper | 7440-50-8 | Solder Ball | 0.062 | 0.600 | 616 |
| Copper | 7440-50-8 | Wire | 1.149 | 11.200 | 11,494 |
| Palladium | 7440-05-3 | Wire | 0.021 | 0.200 | 205 |
| Other | Trade Secret | Wire | 0.000 | 0.003 | 3 |
| | | **TOTALS:** | **100.00** | **974.40** | **1,000,000** |

**974.40 mg Total Mass**

**Package Homogeneous Materials**

| | | | | |
|---|---|---|---|---|
| **376.40** | **(mg) Total** | **Mold Compound** | **% of Total Weight** | **38.63** |
| | Silica | 60676-86-0 | 84.0 | |
| | Resin | Trade Secret | 15.808 | |
| | Carbon Black | 1333-86-4 | 0.21 | |
| | | **Total** | **100.00** | |
| **435.50** | **(mg) Total** | **Substrate** | **% of Total Weight** | **44.69** |
| | Bismaleimide | 13676-54-5 | 65.6 | |
| | Copper | 7440-50-8 | 31.9 | |
| | Gold | 7440-57-5 | 0.4 | |
| | Nickel | 7440-02-0 | 2.0 | |
| | | **Total** | **100.00** | |
| **29.80** | **(mg) Total** | **Die** | **% of Total Weight** | **3.06** |
| | Silicon | 7440-21-3 | 100.00 | |
| | | **Total** | **100.00** | |
| **3.40** | **Total (mg)** | **Die Attach Epoxy** | **% of Total Weight** | **0.35** |
| | Silver | 7440-22-4 | 76.47 | |
| | Epoxy Resin | Trade Secret | 23.53 | |
| | | **Total** | **100.00** | |
| **117.90** | **(mg) Total** | **Solder Ball** | **% of Total Weight** | **12.10** |
| | Tin | 7440-31-5 | 98.47 | |
| | Silver | 7440-22-4 | 1.02 | |
| | Copper | 7440-50-8 | 0.51 | |
| | | **Total** | **100.00** | |
| **11.40** | **(mg) Total** | **Wire** | **% of Total Weight** | **1.17** |
| | Copper | 7440-50-8 | 98.22 | |
| | Palladium | 7440-05-3 | 1.75 | |
| | Other | Trade Secret | 0.03 | |
| **974.403** | | **Total** | **100.00** | 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)**

**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.**

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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**