



**Product / Package Information**

|                        |         |
|------------------------|---------|
| <b>Package</b>         | CSP BGA |
| <b>Body Size (mm)</b>  | 6 X 6   |
| <b>Ball Count</b>      | 40      |
| <b>Terminal Finish</b> | SnAgCu  |
| <b>Ball Size (mm)</b>  | 0.40    |

**Environmental Information**

|                                   |     |
|-----------------------------------|-----|
| <b>RoHS Compliant</b>             | Yes |
| <b>High Temperature Compliant</b> | Yes |
| <b>Halogen Free Compliant</b>     | Yes |
| <b>REACH SVHC Compliant</b>       | Yes |

**Materials Declaration**

**Molding Compound**

| Description               | Substance       | CAS#        | Weight (g) | Homogeneous Material Level |         | Component Level |        |
|---------------------------|-----------------|-------------|------------|----------------------------|---------|-----------------|--------|
|                           |                 |             |            | Percentage (%)             | PPM     | Percentage (%)  | PPM    |
| Other inorganic materials | Silica          | 60676-86-0  | 2.39 E-02  | 86.20                      | 862000  | 39.63           | 396288 |
| Thermosets                | Epoxy resin     | Proprietary | 1.67 E-03  | 6.00                       | 60000   | 2.76            | 27584  |
| Thermosets                | Phenol Resin    | Proprietary | 1.67 E-03  | 6.00                       | 60000   | 2.76            | 27584  |
| Other inorganic materials | Metal Hydroxide | Proprietary | 4.16 E-04  | 1.50                       | 15000   | 0.69            | 6896   |
| Other inorganic materials | Carbon Black    | 1333-86-4   | 8.33 E-05  | 0.30                       | 3000    | 0.14            | 1379   |
| Subtotal                  | Subtotal        |             | 2.78 E-02  | 100.0                      | 1000000 | 45.97           | 459730 |

**Laminata**

| Description               | Substance                                 | CAS#        | Weight (g) | Homogeneous Material Level |         | Component Level |        |
|---------------------------|---|-------------|------------|----------------------------|---------|-----------------|--------|
|                           |   |             |            | Percentage (%)             | PPM     | Percentage (%)  | PPM    |
| Composite                 | Glass Cloth                               | 65997-17-3  | 3.60 E-03  | 21.35                      | 213500  | 5.96            | 59618  |
| Other inorganic materials | Inorganic Filler                          | Proprietary | 1.44 E-03  | 8.54                       | 85400   | 2.38            | 23847  |
| Thermoset                 | Epoxy                                     | 7328-97-4   | 7.20 E-04  | 4.27                       | 42700   | 1.19            | 11924  |
| Thermoset                 | Flame Resistant Epoxy Resin               | Proprietary | 7.20 E-04  | 4.27                       | 42700   | 1.19            | 11924  |
| Thermoset                 | Heat Resistant Resin                      | Proprietary | 7.20 E-04  | 4.27                       | 42700   | 1.19            | 11924  |
| Copper & its alloys       | Copper                                    | 7440-50-8   | 2.31 E-03  | 13.68                      | 136800  | 3.82            | 38200  |
|                           | Laminata Core Subtotal                    |             | 7.20 E-03  | 56.38                      | 563800  | 15.74           | 157437 |
| Other organic materials   | Modified Resin                            |             | 8.19 E-04  | 4.86                       | 48550   | 1.36            | 13557  |
| Other inorganic materials | Barium Sulfate and others                 | 7727-43-7   | 8.35 E-04  | 4.96                       | 49550   | 1.38            | 13836  |
| Other organic materials   | Aromatic Hydrocarbon                      |             | 4.60 E-04  | 2.73                       | 27300   | 0.76            | 7623   |
| Thermoset                 | Epoxy resin                               | 85954-11-6  | 4.30 E-04  | 2.55                       | 25500   | 0.71            | 7121   |
| Other organic materials   | Diethylene Glycol Monoethyl Ether Acetate | 112-15-2    | 2.95 E-04  | 1.75                       | 17500   | 0.49            | 4887   |
| Other organic materials   | Acrylic ester monomer                     | Proprietary | 1.26 E-04  | 0.75                       | 7500    | 0.21            | 2094   |
| Other organic materials   | Aromatic Carbonyl Compound                |             | 8.09 E-05  | 0.48                       | 4800    | 0.13            | 1340   |
| Other organic materials   | Dipropylene glycol monomethyl ether       | 34590-94-8  | 7.76 E-05  | 0.46                       | 4600    | 0.13            | 1285   |
| Others                    | Leveling Agents & Others                  | Proprietary | 5.23 E-05  | 0.31                       | 3100    | 0.09            | 866    |
| Other organic materials   | Organic Filler                            | Proprietary | 4.22 E-05  | 0.25                       | 2500    | 0.07            | 698    |
| Other inorganic materials | Amine Compound                            | Proprietary | 1.35 E-05  | 0.08                       | 800     | 0.02            | 223    |
| Other organic materials   | Phthalocyanine Green                      | Proprietary | 6.74 E-06  | 0.04                       | 400     | 0.01            | 112    |
|                           | Soldermask Subtotal                       |             | 1.92 E-04  | 19.21                      | 192100  | 5.36            | 53643  |
| Copper & its alloys       | Copper                                    | 7440-50-8   | 3.80 E-03  | 22.56                      | 225600  | 6.30            | 62997  |
| Nickel & its alloys       | Nickel                                    | 7440-02-0   | 2.82 E-04  | 1.67                       | 16700   | 0.47            | 4663   |
| Precious metals           | Gold                                      | 7440-57-5   | 3.03 E-05  | 0.18                       | 1800    | 0.05            | 503    |
| Subtotal                  |   |             | 1.69 E-02  | 100.00                     | 1000000 | 27.92           | 279243 |

**Solder Ball**

| Description      | Substance | CAS#      | Weight (g) | Homogeneous Material Level |         | Component Level |        |
|------------------|-----------|-----------|------------|----------------------------|---------|-----------------|--------|
|                  |           |           |            | Percentage (%)             | PPM     | Percentage (%)  | PPM    |
| Tin & its alloys | Tin       | 7440-31-5 | 1.01 E-02  | 96.50                      | 965000  | 16.74           | 167380 |
| Tin & its alloys | Silver    | 7440-22-4 | 3.14 E-04  | 3.00                       | 30000   | 0.52            | 5204   |
| Tin & its alloys | Copper    | 7440-50-8 | 5.24 E-05  | 0.50                       | 5000    | 0.09            | 867    |
| Subtotal         |           |           | 1.05 E-02  | 100                        | 1000000 | 17.35           | 173451 |

**Bond Wires**

| Description     | Substance | CAS#      | Weight (g) | Homogeneous Material Level |         | Component Level |      |
|-----------------|-----------|-----------|------------|----------------------------|---------|-----------------|------|
|                 |           |           |            | Percentage (%)             | PPM     | Percentage (%)  | PPM  |
| Precious metals | Gold      | 7440-57-5 | 2.10 E-04  | 99                         | 990000  | 0.35            | 3476 |
| Precious metals | Palladium | 7440-05-3 | 2.12 E-06  | 1                          | 10000   | 0.00            | 35   |
| Subtotal        |           |           | 2.12 E-04  | 100                        | 1000000 | 0.35            | 3511 |

**Chip**

| Description               | Substance     | CAS#      | Weight (g) | Homogeneous Material Level |         | Component Level |       |
|---------------------------|---------------|-----------|------------|----------------------------|---------|-----------------|-------|
|                           |               |           |            | Percentage (%)             | PPM     | Percentage (%)  | PPM   |
| Other inorganic materials | Doped Silicon | 7440-21-3 | 4.61 E-03  | 100                        | 1000000 | 7.64            | 76413 |

**Die Attach**

| Description               | Substance               | CAS#       | Weight (g) | Homogeneous Material Level |         | Component Level |      |
|---------------------------|-------------------------|------------|------------|----------------------------|---------|-----------------|------|
|                           |                         |            |            | Percentage (%)             | PPM     | Percentage (%)  | PPM  |
| Other inorganic materials | Silicon dioxide monomer | 60676-86-0 | 2.23 E-04  | 48.30                      | 483000  | 0.37            | 3696 |
| Other organic materials   | Bismaleimide monomer    | TS #10049  | 1.44 E-04  | 31.25                      | 312500  | 0.24            | 2391 |
| Other organic materials   | Acrylate monomer        | TS #10050  | 3.94 E-05  | 8.52                       | 85200   | 0.07            | 652  |
| Thermoset                 | Epoxy resin             | TS #10042  | 3.94 E-05  | 8.52                       | 85200   | 0.07            | 652  |
| Other organic materials   | Acrylic resin           | TS #10051  | 1.58 E-05  | 3.41                       | 34100   | 0.03            | 261  |
| Subtotal                  |                         |            | 4.62 E-04  | 100.00                     | 1000000 | 0.77            | 7652 |

|                       |  |  |                                |  |  |                                 |                       |
|-----------------------|--|--|--------------------------------|--|--|---------------------------------|-----------------------|
| <b>Package Totals</b> |  |  | <b>Weight (g)</b><br>6.04 E-02 |  |  | <b>Percentage (%)</b><br>100.00 | <b>PPM</b><br>1000000 |
|-----------------------|--|--|--------------------------------|--|--|---------------------------------|-----------------------|

Note: The information provided in this declaration are true to the best of ADI's knowledge. ADI derived most of the information listed in this declaration from documents provided by third parties, and assumes no liability to any inaccuracy of such information.



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