# Device Material Content

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**Package: 44 TQFP (1.4mm) with matte Sn Plating**
**Total Device Weight 0.34 Grams**

MSL: 3
Peak Reflow Temp: 260°C

| August, 2008 | % of Total Pkg. Wt. | Weight (g) | % of Total Pkg. Wt. | Weight (g) | Substance | CAS # | Notes / Assumptions: |
|---|---|---|---|---|---|---|---|
| **Die** | 1.55% | 0.005 | | | Silicon chip | 7440-21-3 | Die size: 2.10 x 3.00 mm |
| **Mold** | 77.04% | 0.262 | | | | | Mold Compound Density between 1.7 and 2.1 grams/cc |
| | | | 65.49% | 0.223 | Silica Fused | 60676-86-0 | 80 to 90% Silica Fused (LSC uses 85% in our calculation) |
| | | | 3.85% | 0.013 | Epoxy Resin | - | 5 to 10% Epoxy Resin (LSC uses 5% in our calculation). |
| | | | 3.85% | 0.013 | Phenol Resin | - | 5 to 10% Phenol Resin (LSC uses 5% in our calculation). |
| | | | 0.77% | 0.0026 | Antimony Trioxide | 1309-64-4 | 0.1% to 1% Antimony Trioxide (LSC uses 1% in our calculation) |
| | | | 0.46% | 0.0016 | Carbon black | 1333-86-4 | 0.1 to 1% Carbon black (LSC uses 0.6% in our calculation) |
| | | | 2.62% | 0.009 | Other (trade secret) | - | 1 to 4% Other (LSC uses 3.4% in our calculation) |
| **D/A Epoxy** | 0.19% | 0.0006 | | | | | |
| | | | 0.15% | 0.0005 | Silver (Ag) | 7440-22-4 | (silver content: 70-90%; LSC uses 80% in our calculation) |
| | | | 0.04% | 0.0001 | other | - | Die attach epoxy Density: 4 grams/cc |
| **Wire** | 0.38% | 0.0013 | | | Gold (Au) | 7440-57-5 | 0.8 to 1.0 mil diameter; 1 wire per package lead; wire length 3 mm |
| **Lead Plating** | 2.08% | 0.007 | | | Tin (Sn) | 7440-31-5 | Plating is 100% Sn; thickness is 0.015mm |
| **Leadframe** | 18.76% | 0.064 | | | | | Leadframe thickness is nominal (per Case Outline) |
| | | | 18.29% | 0.0622 | Copper (Cu) | 7440-50-8 | Cu (LSC uses 97.5% in our calculation) |
| | | | 0.08% | 0.00026 | Silicon (Si) | 7440-21-3 | 0 to 0.65% Si (LSC uses 0.4% in our calculation) |
| | | | 0.02% | 0.0001 | Zinc (Zn) | 7440-66-6 | 0 to 0.2% Zn (LSC uses 0.1% in our calculation) |
| | | | 0.04% | 0.00013 | Tin (Sn) | 7440-31-5 | 0 to 0.25% Sn (LSC uses 0.2% in our calculation) |
| | | | 0.04% | 0.0001 | Chromium (Cr) | 7440-47-3 | 0 to 0.3% Cr (LSC uses 0.2% in our calculation) |
| | | | 0.28% | 0.0010 | Nickel (Ni) | 7440-02-0 | 0 to 3% Ni (LSC uses 1.5% in our calculation) |
| | | | 0.02% | 0.00006 | Magnesium (Mg) | 7439-95-4 | 0 to 0.15% Mg (LSC uses 0.1% in our calculation) |
| | | | | | | | Copper area is fixed at 55% package area |

**Notes:**
The values listed above are nominal values based on studies of representatives of this particular package type, and are believed to be as accurate as possible.
Constituent substances and proportions in epoxy materials are before curing.
The information provided above is representative of the package as of the date listed, and is subject to change at any time.
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lead-free RoHS 2002/95/EC

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