

# Material Composition for Model PHS11R2D

| Sub-component     | Material         | % of Total Mass | Substance Name           | CAS #        | Substance Mass (grams) | Special Classification |
|-------------------|------------------|-----------------|--------------------------|--------------|------------------------|------------------------|
| Rotor             | LCP              | 6.90%           | Aromatic polyester resin | 60088-52-0   | 1.30E-01               |                        |
|                   |                  |                 | Glass Fiber              | 65997-17-3   | 4.00E-02               |                        |
|                   |                  |                 | Inorganic Filler         | trade secret | 2.90E-02               |                        |
|                   |                  |                 | Carbon Black             | 133-86-4     | 1.00E-03               |                        |
| Wipers            | Beryllium Copper | 5.86%           | Be                       | 7439-89-6    | 3.39E-03               |                        |
|                   |                  |                 | Ni                       | 7440-02-0    | 8.49E-04               |                        |
|                   |                  |                 | Fe                       | 7439-89-6    | 1.70E-04               |                        |
|                   |                  |                 | Al                       | 7429-90-5    | 1.70E-04               |                        |
|                   |                  |                 | Si                       | 7440-21-3    | 1.70E-04               |                        |
|                   |                  |                 | Pb                       | 7439-92-1    | 1.70E-05               |                        |
|                   |                  |                 | Cu                       | 7440.50-8    | 1.65E-01               |                        |
|                   | Silver Plating   | 0.01%           | Ag                       | 7440-22-4    | 2.10E-04               |                        |
|                   |                  |                 | Ni                       | 7440-02-0    | 9.00E-05               |                        |
|                   | Terminals        | Brass           | 27.32%                   | Cu           | 7440-50-8              | 5.15E-01               |
| Zn                |                  |                 |                          | 7440-66-6    | 2.77E-01               |                        |
| Silver Plating    |                  | 0.05%           | Ag                       | 7440-22-4    | 9.80E-04               |                        |
|                   |                  |                 | Ni                       | 7440-02-0    | 4.20E-04               |                        |
| Body              | PPS              | 56.96%          | PPS                      | 25212-74-2   | 9.74E-01               |                        |
|                   |                  |                 | Glass Fiber              | 65997-17-3   | 6.60E-01               |                        |
|                   |                  |                 | Additive                 |              | 1.65E-02               |                        |
| Housing           | PPA              | 2.90%           | Polyphthalamide          |              | 5.04E-02               |                        |
|                   |                  |                 | Glass Fiber              | 65997-17-3   | 2.94E-02               |                        |
|                   |                  |                 | Block polymer            |              | 3.36E-03               |                        |
|                   |                  |                 | Carbon Black             | 133-86-4     | 8.40E-04               |                        |
| <b>Total mass</b> |                  |                 |                          |              | <b>2.897 grams</b>     |                        |