UOX Beryllium Oxide Powder

Effective Date: October 10, 2012

1. SCOPE
   This specification defines a uniform, high purity beryllium oxide powder which will sinter to a high density when formed by conventional ceramic techniques.

2. CHEMICAL COMPOSITION
   2.1 Standard Element Specification

<table>
<thead>
<tr>
<th>Element</th>
<th>Wt% Max (BeO Basis)</th>
<th>PPM Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulfur</td>
<td>0.15</td>
<td></td>
</tr>
<tr>
<td>Aluminum</td>
<td></td>
<td>100</td>
</tr>
<tr>
<td>Calcium</td>
<td></td>
<td>50</td>
</tr>
<tr>
<td>Iron</td>
<td></td>
<td>100</td>
</tr>
<tr>
<td>Magnesium</td>
<td></td>
<td>30</td>
</tr>
<tr>
<td>Silicon</td>
<td></td>
<td>100</td>
</tr>
<tr>
<td>Sodium</td>
<td></td>
<td>50</td>
</tr>
</tbody>
</table>

3. PHYSICAL PROPERTIES:

   3.1. Loss on Drying maximum % (by weight) 1.0
   3.2. Loss on Ignition, after drying maximum % (by weight) 1.0
   3.3. Surface Area (M^2/gram) 8.2-12.7
4. STANDARD MARKING
   Materion Brush Inc. (MBI)
   Lot Number
   Specification Number
   Purchase Order Number
   WARNING: Beryllium

5. SAFETY / ENVIRONMENTAL
   Handling Beryllium Containing Material in solid form poses no special health risk. Like many
   industrial materials, beryllium-containing materials may pose a health risk if recommended safe
   handling practices are not followed. Inhalation of airborne beryllium may cause a serious lung
   disorder in susceptible individuals. The Occupational Safety and Health Administration (OSHA)
   has set mandatory limits on occupational respiratory exposures. Read and follow the guidance in
   the Material Safety Data Sheet (MSDS) before working with this material. For additional
   information on safe handling practices or technical data on Beryllium Containing Material, contact
   Materion Brush Beryllium & Composites, EH&S Product Steward @ 216-383-4040

   SIGNED INDEMNIFICATION CERTIFICATION REQUIRED WITH ORDER.