COPPER OXIDE NANOPOWDER

CuO

Purity 99.9%

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Nanomaterials are being applied across a wide range of high-tech industries and advanced technologies due to their excellent optical, magnetic, catalytic and electronic properties. Copper oxide nanoparticles are very stable, and their activity is longer when compared with organic anti-microbial agents. CuO nanoparticles have great biological properties including effective antimicrobial action against a wide range of pathogens and also drug resistant bacteria. These properties have led to the development of various approaches with direct applications to the biomedical field, such as tailored surfaces with antimicrobial effect, wound dressings and modified textiles. Copper oxide nanoparticles can be applied to the catalyst, superconducting materials, and thermoelectric materials, sensing materials, glass, ceramics and other fields.

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**Quick Facts**

**Product**: Copper Oxide Nanopowder  
**Stock No**: NS6130-03-310 to NS6130-03-312  
**CAS**: 1317-38-0  
**Color**: Black  
**Form**: Powder  
**Symbol**: CuO  
**Group**: Copper 11/Oxygen 16  

**Electronic Configuration**: Copper [Ar] 3d10 4s1/Oxygen [He] 2s2 2p4

**Additional Powder Characteristics**

<table>
<thead>
<tr>
<th>Stock No.</th>
<th>Purity</th>
<th>APS</th>
</tr>
</thead>
<tbody>
<tr>
<td>NS6130-03-310</td>
<td>99.9%</td>
<td>25-55nm</td>
</tr>
<tr>
<td>NS6130-03-311</td>
<td>99.9%</td>
<td>&lt;80nm</td>
</tr>
<tr>
<td>NS6130-03-312</td>
<td>99.9%</td>
<td>40nm</td>
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</tbody>
</table>

**Technical Specification**

<table>
<thead>
<tr>
<th>Molecular Formula</th>
<th>Molecular Weight</th>
<th>Density</th>
<th>Melting Point</th>
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</thead>
<tbody>
<tr>
<td>CuO</td>
<td>79.54 g/mol</td>
<td>6.31 g/cm³</td>
<td>1201 °C</td>
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</tbody>
</table>

**Chemical Composition**

<table>
<thead>
<tr>
<th>Product</th>
<th>Weight Percent (nominal)</th>
<th>Other Metal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper Oxide Nanopowder</td>
<td>99.9%</td>
<td>1000ppm</td>
</tr>
</tbody>
</table>

**Applications**

- Catalyst in rocket propellant  
- As ceramic resistors  
- Magnetic storage media  
- Gas sensors  
- Near-infrared filters  
- Photoconductive and photo thermal applications  
- As semiconductors, solar energy transformation, and high-tech superconductors  
- Ceramic resistors,  
- Magnetic storage media  
- Gas sensors  
- Near-infrared filters  
- Photoconductive  
- Photo thermal applications