MATERIAL SAFETY DATA SHEET

MAGNESIUM OXIDE SINGLE CRYSTAL

Advanced Composite Materials, LLC
1446 S. Buncombe Road
Greer, South Carolina  29651

Telephone Numbers:
Technical:  864-877-0123
Emergency:  1-800-457-4280 (Infotrac)

Issued: 01/31/08  Supercedes: 08/15/06

I.  GENERAL

Trade Names:  Magnesium Oxide Single Crystal: All Designations
Other Name:  MgO Single Crystal, Magnesia
Generic Name:  Magnesium Oxide

Chemical Family:  Metal Carbide/Metal Oxide
DOT Hazardous Material Proper Shipping Name:  Not regulated
DOT Hazard Class:  Not regulated
NFPA Rating:  Health  0  Flammability  0  Reactivity  0
UN/NA ID NO.:  N/AP

CAS No.:  See Section II

II.  HAZARDOUS INGREDIENTS

<table>
<thead>
<tr>
<th>NAME</th>
<th>CAS #</th>
<th>%</th>
<th>CARCINOGEN</th>
<th>EXPOSURE LIMIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magnesium Oxide</td>
<td>1309-48-4</td>
<td>100%</td>
<td>N/P</td>
<td>OSHA PEL:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>10 mg/m³ TWA (as fume)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>resolvable: 5 mg/m³ TWA (as dust)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>ACGIH® TLV®:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>10 mg/m³ TWA (as fume)</td>
</tr>
</tbody>
</table>

a. Listing Agencies: 1 = NTP, National Toxicology Program
2 = IARC, International Agency for Research on Cancer
3 = ACGIH®, American Conference of Governmental Industrial Hygienists
4 = OSHA, Occupational Safety and Health Administration
5 = Other

III. PHYSICAL/CHEMICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boiling Point:</td>
<td>N/AP</td>
</tr>
<tr>
<td>Specific Gravity (Water = 1):</td>
<td>3.65</td>
</tr>
<tr>
<td>Vapor Pressure (mm Hg):</td>
<td>N/AP</td>
</tr>
<tr>
<td>Melting Point:</td>
<td>2800°C</td>
</tr>
<tr>
<td>Vapor Density (Air = 1):</td>
<td>N/AP</td>
</tr>
<tr>
<td>pH:</td>
<td>N/AP</td>
</tr>
<tr>
<td>Solubility in Water:</td>
<td>Insoluble</td>
</tr>
<tr>
<td>Evaporation Rate (Butyl Acetate = 1):</td>
<td>N/AP</td>
</tr>
<tr>
<td>Appearance and Odor:</td>
<td>Translucent to white crystal as thin wafers or rectangular shapes, with no odor.</td>
</tr>
</tbody>
</table>

IV. FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method):  Non-flammable by conventional test methods.
Auto Ignition Temp. (Method):  N/AP
Flammable Limits:  Non-flammable  Lower (LEL): N/AP  Upper (UEL): N/AP
Fire and Explosion Hazards:  None. Inorganic, non-explosive.
Extinguishing Media:  Use extinguishing media appropriate for surrounding materials.
V. REACTIVITY DATA

Stability: Stable.
Conditions to Avoid: None.

Incompatibility (Materials to Avoid): None (Long term contact with moisture will cause surface to become cloudy, a non-hazardous condition).

Hazardous Polymerization: Will not occur.
Conditions to Avoid: N/AP

VI. HEALTH HAZARDS

Physical Hazards: None

Acute or Chronic Effects: None

Effects of Overexposure: No harm via inhalation, skin absorption or eye contact when handling single crystal material. During grinding and finishing, skin contact with grinding dust may cause drying and roughness or irritation to persons with sensitive skin. No effect to normal skin.

Emergency First Aid Procedures: First, wash the affected skin area with water. If skin irritation continues, apply an ointment or cream to the skin.

VII. PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to be Taken in Case Material is Released or Spilled: Collect materials for re-use or disposal. To minimize dust generation, wet down spillage with low velocity fine mist water spray.

Waste Disposal Method: Dispose in accordance with all federal, state, county and local jurisdiction solid waste regulations.

VIII. CONTROL MEASURES

Respiratory Protection: None under normal conditions of use.

Eye Protection: Wear safety goggles during dry grinding.

Skin Protection: Wear rubber gloves during polishing or grinding.

Ventilation: Ventilate work area to remove dust produced during polishing or grinding.

Other Hygienic and Work Practices: Wear NIOSH/OSHA approved nuisance dust respirator when polishing or grinding produces dust.

The information in this MSDS was obtained from sources that we believe are reliable. HOWEVER, THE INFORMATION IS PROVIDED WITHOUT ANY WARRANTY, EXPRESS OR IMPLIED, REGARDING ITS CORRECTNESS.

The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THE PRODUCT.

This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.