Safety Data Sheet
Spray Dried Magnesia Stabilized Zirconia Powder “Ready To Press” (RTP)

SECTION 1: Identification

Product identifier

Product name Spray Dried Magnesia Stabilized Zirconia Powder (RTP)
Substance name Magnesia Stabilized Zirconia
Other names / synonyms Magnesia Stabilized Zirconia Ceramic,
Mag Stabilized Zirconia RTP, MSZ, (MSZ-200, MSZ-300),TTZ

Recommended use of the chemical and restrictions on use
For forming pressed compacts and fired ceramic components.

Supplier’s details

Name Superior Technical Ceramics
Address 600 Industrial Park Road
St. Albans, Vermont 05478
USA
Telephone 802-527-7726
Fax 802-527-1181

Emergency phone number(s)
802-527-7726

SECTION 2: Hazard identification

Classification of the substance or mixture
Not a hazardous substance or mixture

GHS label elements, including precautionary statements
Not a hazardous substance or mixture

Other hazards which do not result in classification
Not a hazardous substance or mixture

SECTION 3: Composition/information on ingredients

Components

1. Zirconium oxide
   Concentration 79 - 97 %
   Other names / synonyms Zirconium oxide
   CAS no. 1314-23-4

2. Magnesium oxide


SECTION 4: First-aid measures

Description of necessary first-aid measures

If inhaled
Move to fresh air and consult with local medical personnel if discomfort persists.

In case of skin contact
Wash affected area with soap and water and consult with local medical personnel if irritation persists.

In case of eye contact
Flush with tepid water for a minimum of 15 minutes and consult with local medical personnel if discomfort persists.

If swallowed
Administer water to dilute, but not if person is unconscious. Consult with local medical personnel if discomfort persists.

SECTION 5: Fire-fighting measures

Suitable extinguishing media
Use any means suitable for extinguishing surrounding fire.

Specific hazards arising from the chemical
Possible Class A fire hazard – combustible vapors can develop in the headspace over the product. Flash point is 220°C (428°F).

Special protective actions for fire-fighters
Use protective clothing and breathing equipment appropriate for the surrounding fire and to protect against the dust that may be dispersed in the air.

Further information
Releases CO and CO2 in a fire and at temperatures >220°C (428°F).

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures
Sweep up any spills and place in containers for disposal or reclaim. Vacuuming or wet sweeping may be used to avoid excessive dust.

**Methods and materials for containment and cleaning up**
Any dust from machining should be wet mopped or dry vacuumed.

---

**SECTION 7: Handling and storage**

**Precautions for safe handling**
Store in a cool dry place. Any dust should be wet mopped.

---

**SECTION 8: Exposure controls/personal protection**

**Control parameters**

1. **Magnesium oxide fume - Total Particulate (CAS: 1309-48-4)**
   - PEL (Inhalation): 15 mg/m³ (OSHA)
   - OSHA Annotated Table Z-1, www.osha.gov

2. **Magnesium oxide fume - Total Particulate (CAS: 1309-48-4)**
   - PEL (Inhalation): 10 mg/m³ (Cal/OSHA)
   - OSHA Annotated Table Z-1, www.osha.gov

3. **Magnesium oxide fume - Total Particulate (CAS: 1309-48-4)**
   - REL (Inhalation): See Appendix D (NIOSH)
   - OSHA Annotated Table Z-1, www.osha.gov

**Appropriate engineering controls**
Local or general exhaust ventilation recommended.

**Individual protection measures, such as personal protective equipment (PPE)**

**Eye/face protection**
Safety goggles in the presence of airborne dust.

**Skin protection**
Polymer gloves for prolonged dust exposure.

**Respiratory protection**
NIOSH/MSHA approved respirator for dust when exposure limit is exceeded.

---

**SECTION 9: Physical and chemical properties**

**Information on basic physical and chemical properties**

- **Appearance/form**: White, Flowable Powder
- **Odor**: Odorless
- **Odor threshold**: N/A
- **pH**: N/A
- **Melting point**: N/A
- **Initial boiling point and boiling range**: N/A
- **Flash point**: N/A
- **Evaporation rate**: N/A
- **Flammability (solid, gas)**: N/A
Safety Data Sheet
Spray Dried Magnesia Stabilized Zirconia Powder “Ready To Press” (RTP)

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper/lower flammability limits</td>
<td>N/A</td>
</tr>
<tr>
<td>Upper/lower explosive limits</td>
<td>N/A</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>N/A</td>
</tr>
<tr>
<td>Vapor density</td>
<td>N/A</td>
</tr>
<tr>
<td>Relative density</td>
<td>&gt;1.2 g/cc</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td>Organic Portion Soluble in Water</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>N/A</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>N/A</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>N/A</td>
</tr>
<tr>
<td>Viscosity</td>
<td>N/A</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>N/A</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**SECTION 10: Stability and reactivity**

**Chemical stability**
Stable

**Hazardous decomposition products**
CO and CO2 in a fire and at temperatures >220°C (428°F).

**SECTION 11: Toxicological information**
No Applicable Information Found

**SECTION 12: Ecological information**
No Applicable Information Found

**SECTION 13: Disposal considerations**

**Disposal of the product**
This material is not hazardous per 40 CFR 261. Consultation with federal, state and local officials is recommended before disposal.

**SECTION 14: Transport information**

**DOT (US)**
Not dangerous goods

**IMDG**
Not dangerous goods

**IATA**
Not dangerous goods

**SECTION 15: Regulatory information**

**US FEDERAL**

TSCA
SARA Section 302 Extremely Hazardous Substances  
Substance Not Listed.  
Section 313  
Substance Not Listed.  
OSHA:  
None of the chemicals in this product are considered highly hazardous by OSHA.  

US STATE  

CAS# 1309-48-4 Magnesium Oxide can be found on the following state right to know lists: 
Consult your state and local resources for further information.  

California Prop 65  
No components on list.  

SECTION 16: Other information  

Further information/disclaimer  
Although reasonable care has been taken to provide accurate and current information in preparation of this  
document, Superior Technical Ceramics extends no warranties, makes no representation and assumes no  
responsibility for any loss, damage, or injury of any kind which may result from reliance of information provided in  
this document by any person.  

Preparation Information  
Prepared by: Superior Technical Ceramics  
1-802-527-7726  
lab@ceramics.net  

Prepared on: June 1, 2015  
Last Revision: --