Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product identifier
Product Name
Mullite – Code 9441, #1020

1.2 Relevant identified uses of the substance or mixture and uses advised against
Relevant identified use(s)
- Thermal spray powder

1.3 Details of the supplier of the safety data sheet
Manufacturer
Saint Gobain
One New Bond Street
Worcester, MA 01615-0137
(508) 795-5000
http://www.ceramicmaterials.saint-gobain.com

1.4 Emergency telephone number
CHEMTREC
- 1-800-424-9300 (US/Canada)
- +01 703-527-3887 (International)

Section 2: Hazards Identification

EU/EEC

2.1 Classification of the substance or mixture
CLP
- Not classified

2.2 Label Elements
CLP
Hazard statements
- No label element(s) required

2.3 Other Hazards
CLP
- According to Regulation (EC) No. 1272/2008 (CLP) this material is not considered hazardous.
UN GHS
According to: UN Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

2.1 Classification of the substance or mixture
   UN GHS
       • Not classified

2.2 Label elements
   UN GHS
       Hazard statements • No label element(s) required

2.3 Other hazards
   UN GHS
       • According to the Globally Harmonized System for Classification and Labeling (GHS) this product does not meet the criteria necessary to be considered hazardous.

United States (US)
According to: OSHA 29 CFR 1910.1200 HCS

2.1 Classification of the substance or mixture
   OSHA HCS 2012
       • Not classified

2.2 Label elements
   OSHA HCS 2012
       Hazard statements • No label element(s) required

2.3 Other hazards
   OSHA HCS 2012
       • This product is not considered hazardous under the U.S. OSHA 29 CFR 1910.1200 Hazard Communication Standard.

Canada
According to: WHMIS

2.1 Classification of the substance or mixture
   WHMIS
       • Not classified

2.2 Label elements
   WHMIS
       • No label element(s) required.

2.3 Other hazards
   WHMIS
       • In Canada, the product mentioned above is not considered hazardous under the Workplace Hazardous Materials Information System (WHMIS).

Section 3 - Composition/Information on Ingredients

3.1 Substances

       • Material does not meet the criteria of a substance.

3.2 Mixtures
### Composition

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Identifiers</th>
<th>%</th>
<th>LD50/LC50</th>
<th>Classifications According to Regulation/Directive</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum(III) silicate (2:1)</td>
<td>CAS:1302-76-7 EINECS:215-106-4</td>
<td>95% TO 99%</td>
<td>NDA</td>
<td>UN GHS: Not Classified EU CLP: Not Classified OSHA HCS 2012: Not Classified</td>
<td>NDA</td>
</tr>
<tr>
<td>Aluminum oxide</td>
<td>CAS:1344-28-1 EC Number:215-691-6</td>
<td>0% TO 5%</td>
<td>Inhalation-Rat LC50 • 0.2 mg/L 5 Hour(s) 28 Week(s)</td>
<td>UN GHS: Not Classified EU CLP: Not Classified OSHA HCS 2012: Not Classified</td>
<td>NDA</td>
</tr>
</tbody>
</table>

### Section 4 - First Aid Measures

#### 4.1 Description of first aid measures

**Inhalation**
- Move victim to fresh air. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. If signs/symptoms continue, get medical attention.

**Skin**
- In case of contact with substance, immediately flush skin with running water for at least 20 minutes. If irritation develops and persists, get medical attention.

**Eye**
- In case of contact with substance, immediately flush eyes with running water for at least 20 minutes. If eye irritation persists: Get medical advice/attention.

**Ingestion**
- Rinse mouth. Do not give anything by mouth to an unconscious person. Do NOT induce vomiting. Get medical attention.

#### 4.2 Most important symptoms and effects, both acute and delayed

- Refer to Section 11 - Toxicological Information.

#### 4.3 Indication of any immediate medical attention and special treatment needed

**Notes to Physician**
- All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

### Section 5 - Firefighting Measures

#### 5.1 Extinguishing media

**Suitable Extinguishing Media**
- In case of fire use media as appropriate for surrounding fire.

**Unsuitable Extinguishing Media**
- No data available

#### 5.2 Special hazards arising from the substance or mixture

**Unusual Fire and Explosion Hazards**
- None known.

**Hazardous Combustion Products**
- No data available

#### 5.3 Advice for firefighters

- Fire fighters should wear full-face, self-contained breathing apparatus and impervious protective clothing. Fire fighters should avoid inhaling any combustion products.

### Section 6 - Accidental Release Measures

#### 6.1 Personal precautions, protective equipment and emergency procedures

**Personal Precautions**
- Ventilate enclosed areas. Take proper precautions to minimize exposure by using appropriate personal protective equipment.
Emergency Procedures

- Stay upwind. As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. Keep unauthorized personnel away.

6.2 Environmental precautions

- Avoid release to the environment.

6.3 Methods and material for containment and cleaning up

Containment/Clean-up Measures

- Avoid generating dust.
  - SMALL DRY SPILLS: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area.
  - LARGE SPILLS: Cover powder spill with plastic sheet or tarp to minimize spreading.

6.4 Reference to other sections

- Refer to Section 8 - Exposure Controls/Personal Protection and Section 13 - Disposal Considerations.

Section 7 - Handling and Storage

7.1 Precautions for safe handling

Handling

- Use only with adequate ventilation. Minimize dust generation and accumulation. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Wear appropriate personal protective equipment, avoid direct contact. Avoid breathing dust. Avoid contact with skin, eyes, and clothing. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco.

7.2 Conditions for safe storage, including any incompatibilities

Storage

- Keep container tightly closed. Store in a cool, dry, well-ventilated place.

7.3 Specific end use(s)

- Refer to Section 1.2 - Relevant identified uses.

Section 8 - Exposure Controls/Personal Protection

8.1 Control parameters

<table>
<thead>
<tr>
<th>Exposure Limits/Guidelines</th>
<th>Result</th>
<th>ACGIH</th>
<th>China</th>
<th>Denmark</th>
<th>France</th>
<th>Germany DFG</th>
</tr>
</thead>
<tbody>
<tr>
<td>STELs Aluminum oxide (1344-28-1)</td>
<td>Not established</td>
<td>8 mg/m³ STEL (total dust)</td>
<td>Not established</td>
<td>Not established</td>
<td>Not established</td>
<td></td>
</tr>
<tr>
<td>TWAs 1 mg/m³ TWA (respirable fraction) as Aluminum insoluble compounds</td>
<td>4 mg/m³ TWA (total dust)</td>
<td>5 mg/m³ TWA (total, as Al); 2 mg/m³ TWA (respirable, as Al)</td>
<td>10 mg/m³ TWA [VME]</td>
<td>Not established</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MAKs</td>
<td>Not established</td>
<td>Not established</td>
<td>Not established</td>
<td>Not established</td>
<td>4 mg/m³ TWA MAK (dust, inhalable fraction); 1.5 mg/m³ TWA MAK (dust, respirable fraction)</td>
<td></td>
</tr>
</tbody>
</table>

Exposure Limits/Guidelines (Con't.)

<table>
<thead>
<tr>
<th>Result</th>
<th>Greece</th>
<th>Hungary</th>
<th>OSHA</th>
<th>Poland</th>
<th>Portugal</th>
</tr>
</thead>
<tbody>
<tr>
<td>TWAs Aluminum oxide (1344-28-1)</td>
<td>10 mg/m³ TWA (inhalable fraction); 5 mg/m³ TWA (respirable fraction)</td>
<td>6 mg/m³ TWA [AK] (respirable dust)</td>
<td>15 mg/m³ TWA (total dust); 5 mg/m³ TWA (respirable fraction)</td>
<td>2.5 mg/m³ TWA [NDS] (inhalable fraction, as Al); 1.2 mg/m³ TWA [NDS] (respirable fraction, as Al)</td>
<td>10 mg/m³ TWA [VLE-MP] (particulate matter containing no Asbestos and &lt; 1% Crystalline silica)</td>
</tr>
</tbody>
</table>
### Exposure Limits/Guidelines (Con’t.)

<table>
<thead>
<tr>
<th>Aluminum oxide (1344-28-1)</th>
<th>Spain</th>
<th>Sweden</th>
</tr>
</thead>
<tbody>
<tr>
<td>TWAs</td>
<td>10 mg/m³ TWA [VLA-ED]</td>
<td>5 mg/m³ LLV (total dust, as Al); 2 mg/m³ LLV (respirable dust, as Al)</td>
</tr>
</tbody>
</table>

### Exposure Control Notations

**Portugal**
- Aluminum oxide (1344-28-1): Carcinogens: (A4 - Not Classifiable as a Human Carcinogen)

**ACGIH**
- Aluminum oxide as Aluminum insoluble compounds: Carcinogens: (A4 - Not Classifiable as a Human Carcinogen)

**Germany DFG**
- Aluminum oxide (1344-28-1): Carcinogens: (Category 2 (considered to be carcinogenic for man, fibre dust)) | Pregnancy: (classification not yet possible (respirable, inhalable, dust))

### Exposure Limits Supplemental

**ACGIH**
- Aluminum oxide as Aluminum insoluble compounds: TLV Basis - Critical Effects: (pneumoconiosis; lower respiratory tract irritation; neurotoxicity)

### 8.2 Exposure controls

#### Engineering Measures/Controls
- Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Ensure that dust handling systems (such as exhaust ducts, dust collectors, vessels and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is not leakage from the equipment).

#### Personal Protective Equipment

**Respiratory**
- For limited exposure use an N95 dust mask. For prolonged exposure use an air-purifying respirator with high efficiency particulate air (HEPA) filters. Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or symptoms are experienced.

**Eye/Face**
- Wear safety goggles.

**Skin/Body**
- Wear appropriate gloves. Wear long sleeves and/or protective coveralls.

#### Environmental Exposure Controls
- Follow best practice for site management and disposal of waste. Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways.

### Key to abbreviations

- **ACGIH** = American Conference of Governmental Industrial Hygiene
- **LLV** = Limit Level Value is the exposure limit for 8-hour workday
- **MAK** = Maximale Arbeitsplatz Konzentration is the maximum permissible concentration
- **NIOSH** = National Institute of Occupational Safety and Health
- **OSHA** = Occupational Safety and Health Administration
- **STEL** = Short Term Exposure Limits are based on 15-minute exposures
- **TLV** = Threshold Limit Value determined by the American Conference of Governmental Industrial Hygienists (ACGIH)
- **TWA** = Time-Weighted Averages are based on 8h/day, 40h/week exposures

### Section 9 - Physical and Chemical Properties

#### 9.1 Information on Physical and Chemical Properties
### Material Description

<table>
<thead>
<tr>
<th>Physical Form</th>
<th>Solid</th>
<th>Appearance/Description</th>
<th>Whitish/gray powder.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
<td>Whitish/gray</td>
<td>Odor</td>
<td>Data lacking</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>Data lacking</td>
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</tr>
</tbody>
</table>

### General Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boiling Point</td>
<td>Data lacking</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>Data lacking</td>
</tr>
<tr>
<td>Specific Gravity/Relative Density</td>
<td>Data lacking</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Data lacking</td>
</tr>
<tr>
<td>Odor</td>
<td>Data lacking</td>
</tr>
</tbody>
</table>

### Volatility

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vapor Pressure</td>
<td>Data lacking</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Data lacking</td>
</tr>
</tbody>
</table>

### Flammability

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flash Point</td>
<td>Data lacking</td>
</tr>
<tr>
<td>LEL</td>
<td>Data lacking</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Data lacking</td>
</tr>
</tbody>
</table>

### Environmental

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Octanol/Water Partition coefficient</td>
<td>Data lacking</td>
</tr>
</tbody>
</table>

### Section 10: Stability and Reactivity

10.1 Reactivity

- No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

- Stable under normal temperatures and pressures.

10.3 Possibility of hazardous reactions

- Hazardous polymerization not indicated.

10.4 Conditions to avoid

- No data available

10.5 Incompatible materials

- No data available

10.6 Hazardous decomposition products

- No data available

### Section 11 - Toxicological Information

11.1 Information on toxicological effects

<table>
<thead>
<tr>
<th>Components</th>
<th>Multi-dose Toxicity: Inhalation-Rat TCLo • 200 mg/m³ 5 Hour(s) 28 Week(s)-Intermittent; Lungs, Thorax, or Respiration:Structural or functional change in trachea or bronchi; Lungs, Thorax, or Respiration:Chronic pulmonary edema; Related to Chronic Data:Death in the Other Multiple Dose data type field; Tumorigenic / Carcinogenic: Implant-Rat • 200 mg/kg; Tumorigenic:Equivocal tumorigenic agent by RTECS criteria; Tumorigenic:Tumors at site of application; Implant-Rat TDLo • 200 mg/kg; Tumorigenic:Neoplastic by RTECS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum oxide (0% TO 5%)</td>
<td>1344-28-1</td>
</tr>
</tbody>
</table>
Potential Health Effects

**Inhalation**

- **Acute (Immediate)**
  - Nuisance dust may affect the lungs but reactions are typically reversible.

- **Chronic (Delayed)**
  - No data available

**Skin**

- **Acute (Immediate)**
  - Exposure to dust may cause mechanical irritation.

- **Chronic (Delayed)**
  - No data available

**Eye**

<table>
<thead>
<tr>
<th>GHS Properties</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respiratory sensitization</td>
<td>EU/CLP • Data lacking</td>
</tr>
<tr>
<td></td>
<td>OSHA HCS 2012 • Data lacking</td>
</tr>
<tr>
<td></td>
<td>UN GHS • Data lacking</td>
</tr>
<tr>
<td>Serious eye damage/Irritation</td>
<td>EU/CLP • Data lacking</td>
</tr>
<tr>
<td></td>
<td>OSHA HCS 2012 • Data lacking</td>
</tr>
<tr>
<td></td>
<td>UN GHS • Data lacking</td>
</tr>
<tr>
<td>Acute toxicity</td>
<td>EU/CLP • Data lacking</td>
</tr>
<tr>
<td></td>
<td>OSHA HCS 2012 • Data lacking</td>
</tr>
<tr>
<td></td>
<td>UN GHS • Data lacking</td>
</tr>
<tr>
<td>Aspiration Hazard</td>
<td>EU/CLP • Data lacking</td>
</tr>
<tr>
<td></td>
<td>OSHA HCS 2012 • Data lacking</td>
</tr>
<tr>
<td></td>
<td>UN GHS • Data lacking</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>EU/CLP • Data lacking</td>
</tr>
<tr>
<td></td>
<td>OSHA HCS 2012 • Data lacking</td>
</tr>
<tr>
<td></td>
<td>UN GHS • Data lacking</td>
</tr>
<tr>
<td>Skin corrosion/Irritation</td>
<td>EU/CLP • Data lacking</td>
</tr>
<tr>
<td></td>
<td>OSHA HCS 2012 • Data lacking</td>
</tr>
<tr>
<td></td>
<td>UN GHS • Data lacking</td>
</tr>
<tr>
<td>Skin sensitization</td>
<td>EU/CLP • Data lacking</td>
</tr>
<tr>
<td></td>
<td>OSHA HCS 2012 • Data lacking</td>
</tr>
<tr>
<td></td>
<td>UN GHS • Data lacking</td>
</tr>
<tr>
<td>STOT-RE</td>
<td>EU/CLP • Data lacking</td>
</tr>
<tr>
<td></td>
<td>OSHA HCS 2012 • Data lacking</td>
</tr>
<tr>
<td></td>
<td>UN GHS • Data lacking</td>
</tr>
<tr>
<td>STOT-SE</td>
<td>EU/CLP • Data lacking</td>
</tr>
<tr>
<td></td>
<td>OSHA HCS 2012 • Data lacking</td>
</tr>
<tr>
<td></td>
<td>UN GHS • Data lacking</td>
</tr>
<tr>
<td>Toxicity for Reproduction</td>
<td>EU/CLP • Data lacking</td>
</tr>
<tr>
<td></td>
<td>OSHA HCS 2012 • Data lacking</td>
</tr>
<tr>
<td></td>
<td>UN GHS • Data lacking</td>
</tr>
<tr>
<td>Germ Cell Mutagenicity</td>
<td>EU/CLP • Data lacking</td>
</tr>
<tr>
<td></td>
<td>OSHA HCS 2012 • Data lacking</td>
</tr>
<tr>
<td></td>
<td>UN GHS • Data lacking</td>
</tr>
</tbody>
</table>
Acute (Immediate) • Excessive concentrations of nuisance dust in the workplace may reduce visibility and may cause unpleasant deposits in eyes.
Chronic (Delayed) • No data available.

Ingestion
Acute (Immediate) • Excessive concentrations of nuisance dust in the workplace may cause mechanical irritation to mucous membranes.
Chronic (Delayed) • No data available.

Key to abbreviations
TC = Toxic Concentration
TD = Toxic Dose

Section 12 - Ecological Information

12.1 Toxicity
• Material data lacking.

12.2 Persistence and degradability
• Material data lacking.

12.3 Bioaccumulative potential
• Material data lacking.

12.4 Mobility in Soil
• Material data lacking.

12.5 Results of PBT and vPvB assessment
• No PBT and vPvB assessment has been conducted.

12.6 Other adverse effects
• No studies have been found.

Section 13 - Disposal Considerations

13.1 Waste treatment methods
Product waste • Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.
Packaging waste • Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14 - Transport Information

<table>
<thead>
<tr>
<th>DOT</th>
<th>14.1 UN number</th>
<th>14.2 UN proper shipping name</th>
<th>14.3 Transport hazard class(es)</th>
<th>14.4 Packing group</th>
<th>14.5 Environmental hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>NDA</td>
<td>Not Regulated</td>
<td>NDA</td>
<td>NDA</td>
<td>NDA</td>
<td>NDA</td>
</tr>
<tr>
<td>NDA</td>
<td>Not Regulated</td>
<td>NDA</td>
<td>NDA</td>
<td>NDA</td>
<td>NDA</td>
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<tr>
<td>NDA</td>
<td>Not Regulated</td>
<td>NDA</td>
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</tr>
<tr>
<td>NDA</td>
<td>Not Regulated</td>
<td>NDA</td>
<td>NDA</td>
<td>NDA</td>
<td>NDA</td>
</tr>
</tbody>
</table>

14.6 Special precautions for • None specified.
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

• Data lacking.

Section 15 - Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA Hazard Classifications

None

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS</th>
<th>PA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum oxide</td>
<td>1344-28-1</td>
<td>Yes</td>
</tr>
<tr>
<td>Aluminum(III) silicate (2:1)</td>
<td>1302-76-7</td>
<td>No</td>
</tr>
</tbody>
</table>

Inventory

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS</th>
<th>Canada DSL</th>
<th>Canada NDSL</th>
<th>China</th>
<th>EU EINECS</th>
<th>EU ELNICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum oxide</td>
<td>1344-28-1</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Aluminum(III) silicate (2:1)</td>
<td>1302-76-7</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

Inventory (Con’t.)

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS</th>
<th>Korea KECL</th>
<th>TSCA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum oxide</td>
<td>1344-28-1</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Aluminum(III) silicate (2:1)</td>
<td>1302-76-7</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

Canada

Labor

- WHMIS - Classifications of Substances
  - Aluminum oxide  1344-28-1  Uncontrolled product according to WHMIS classification criteria
  - Aluminum(III) silicate (2:1)  1302-76-7  Not Listed

- WHMIS - Ingredient Disclosure List
  - Aluminum oxide  1344-28-1  1 %
  - Aluminum(III) silicate (2:1)  1302-76-7  Not Listed

Environment

- CEPA - Priority Substances List
  - Aluminum oxide  1344-28-1  Not Listed
  - Aluminum(III) silicate (2:1)  1302-76-7  Not Listed

China

Environment

- Ozone Depleting Substances - First Schedule
  - Aluminum oxide  1344-28-1  Not Listed
  - Aluminum(III) silicate (2:1)  1302-76-7  Not Listed
### China - Ozone Depleting Substances - Second Schedule
- Aluminum oxide: 1344-28-1 Not Listed
- Aluminum(III) silicate (2:1): 1302-76-7 Not Listed

### China - Ozone Depleting Substances - Third Schedule
- Aluminum oxide: 1344-28-1 Not Listed
- Aluminum(III) silicate (2:1): 1302-76-7 Not Listed

### Other
#### China - Annex I & II - Controlled Chemicals Lists
- Aluminum oxide: 1344-28-1 Not Listed
- Aluminum(III) silicate (2:1): 1302-76-7 Not Listed

#### China - Dangerous Goods List
- Aluminum oxide: 1344-28-1 Not Listed
- Aluminum(III) silicate (2:1): 1302-76-7 Not Listed

### Germany
#### Labor
- **Germany - Immission Control - Qualifying Quantities for Major Accident Prevention**
  - Aluminum oxide: 1344-28-1 Not Listed
  - Aluminum(III) silicate (2:1): 1302-76-7 Not Listed

- **Germany - Immission Control - Qualifying Quantities for Safety Reporting**
  - Aluminum oxide: 1344-28-1 Not Listed
  - Aluminum(III) silicate (2:1): 1302-76-7 Not Listed

- **Germany - TRGS 505 - Specific Lead Regulations**
  - Aluminum oxide: 1344-28-1 Not Listed
  - Aluminum(III) silicate (2:1): 1302-76-7 Not Listed

- **Germany - TRGS 511 - Specific Ammonium Nitrate Regulations**
  - Aluminum oxide: 1344-28-1 Not Listed
  - Aluminum(III) silicate (2:1): 1302-76-7 Not Listed

#### Environment
- **Germany - TA Luft - Types and Classes**
  - Aluminum oxide: 1344-28-1 Not Listed
  - Aluminum(III) silicate (2:1): 1302-76-7 Not Listed

- **Germany - TA Luft - Emission Limits for Carcinogenic Substances**
  - Aluminum oxide: 1344-28-1 Not Listed
  - Aluminum(III) silicate (2:1): 1302-76-7 Not Listed

- **Germany - TA Luft - Emission Limits for Fibers**
  - Aluminum oxide: 1344-28-1 Not Listed
  - Aluminum(III) silicate (2:1): 1302-76-7 Not Listed

- **Germany - TA Luft - Emission Limits for Inorganic Dusts**
  - Aluminum oxide: 1344-28-1 Not Listed
  - Aluminum(III) silicate (2:1): 1302-76-7 Not Listed

- **Germany - TA Luft - Emission Limits for Inorganic Gases**
### Germany - TA Luft - Emission Limits for Organic Substances
- Aluminum oxide: 1344-28-1 Not Listed
- Aluminum(III) silicate (2:1): 1302-76-7 Not Listed

### Germany - Water Classification (VwVwS) - Annex 1
- Aluminum oxide: 1344-28-1 ID Number 1346, not considered hazardous to water
- Aluminum(III) silicate (2:1): 1302-76-7 Not Listed

### Germany - Water Classification (VwVwS) - Annex 2 - Water Hazard Classes
- Aluminum oxide: 1344-28-1 Not Listed
- Aluminum(III) silicate (2:1): 1302-76-7 Not Listed

### Germany - Water Classification (VwVwS) - Annex 3
- Aluminum oxide: 1344-28-1 Not Listed
- Aluminum(III) silicate (2:1): 1302-76-7 Not Listed

### United States
#### Labor
- **U.S. - OSHA - Process Safety Management - Highly Hazardous Chemicals**
  - Aluminum oxide: 1344-28-1 Not Listed
  - Aluminum(III) silicate (2:1): 1302-76-7 Not Listed
- **U.S. - OSHA - Specifically Regulated Chemicals**
  - Aluminum oxide: 1344-28-1 Not Listed
  - Aluminum(III) silicate (2:1): 1302-76-7 Not Listed

#### Environment
- **U.S. - CAA (Clean Air Act) - 1990 Hazardous Air Pollutants**
  - Aluminum oxide: 1344-28-1 Not Listed
  - Aluminum(III) silicate (2:1): 1302-76-7 Not Listed
- **U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities**
  - Aluminum oxide: 1344-28-1 Not Listed
  - Aluminum(III) silicate (2:1): 1302-76-7 Not Listed
- **U.S. - CERCLA/SARA - Radionuclides and Their Reportable Quantities**
  - Aluminum oxide: 1344-28-1 Not Listed
  - Aluminum(III) silicate (2:1): 1302-76-7 Not Listed
- **U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs**
  - Aluminum oxide: 1344-28-1 Not Listed
  - Aluminum(III) silicate (2:1): 1302-76-7 Not Listed
- **U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs**
  - Aluminum oxide: 1344-28-1 Not Listed
  - Aluminum(III) silicate (2:1): 1302-76-7 Not Listed
- **U.S. - CERCLA/SARA - Section 313 - Emission Reporting**
• Aluminum oxide 1344-28-1 1.0 % de minimis concentration (fibrous forms)
• Aluminum(III) silicate (2:1) 1302-76-7 Not Listed

**U.S. - CERCLA/SARA - Section 313 - PBT Chemical Listing**
• Aluminum oxide 1344-28-1 Not Listed
• Aluminum(III) silicate (2:1) 1302-76-7 Not Listed

**United States - California**

**Environment**
**U.S. - California - Proposition 65 - Carcinogens List**
• Aluminum oxide 1344-28-1 Not Listed
• Aluminum(III) silicate (2:1) 1302-76-7 Not Listed

**U.S. - California - Proposition 65 - Developmental Toxicity**
• Aluminum oxide 1344-28-1 Not Listed
• Aluminum(III) silicate (2:1) 1302-76-7 Not Listed

**U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)**
• Aluminum oxide 1344-28-1 Not Listed
• Aluminum(III) silicate (2:1) 1302-76-7 Not Listed

**U.S. - California - Proposition 65 - No Significant Risk Levels (NSRL)**
• Aluminum oxide 1344-28-1 Not Listed
• Aluminum(III) silicate (2:1) 1302-76-7 Not Listed

**U.S. - California - Proposition 65 - Reproductive Toxicity - Female**
• Aluminum oxide 1344-28-1 Not Listed
• Aluminum(III) silicate (2:1) 1302-76-7 Not Listed

**U.S. - California - Proposition 65 - Reproductive Toxicity - Male**
• Aluminum oxide 1344-28-1 Not Listed
• Aluminum(III) silicate (2:1) 1302-76-7 Not Listed

**United States - Pennsylvania**

**Labor**
**U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List**
• Aluminum oxide 1344-28-1 Not Listed
• Aluminum(III) silicate (2:1) 1302-76-7 Not Listed

**U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances**
• Aluminum oxide 1344-28-1 Not Listed
• Aluminum(III) silicate (2:1) 1302-76-7 Not Listed

**15.2 Chemical Safety Assessment**
• No Chemical Safety Assessment has been carried out.

**Section 16 - Other Information**

**Revision Date**  23/September/2015
**Preparation Date**  23/September/2015
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Key to abbreviations
NDA = No data available