1. Product and Company Identification

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Proroot® MTA Root Canal Repair Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSDS Code Number</td>
<td>n/a</td>
</tr>
<tr>
<td>Trade Name &amp; Synonyms</td>
<td>Proroot® MTA Root Canal Repair Material</td>
</tr>
<tr>
<td>Date of Last Revision</td>
<td>1-27-10</td>
</tr>
<tr>
<td>Manufacturer</td>
<td>DENTSPLY Tulsa Dental Specialties</td>
</tr>
<tr>
<td>Address</td>
<td>608 Rolling Hills Dr., Johnson City, TN 37604</td>
</tr>
<tr>
<td>Grades or Minor Variant Identities</td>
<td>n/a</td>
</tr>
<tr>
<td>Information Telephone Number</td>
<td>1-800-662-1202</td>
</tr>
<tr>
<td>Emergency Telephone Number</td>
<td>Contact ChemTrec: 1-800-424-9300</td>
</tr>
<tr>
<td>Product Use (for Canada)</td>
<td>n/a</td>
</tr>
</tbody>
</table>

2. Composition of Ingredients

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>C.A.S. Number</th>
<th>%</th>
<th>EC Substance Classification (67/548/EEC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portland cement</td>
<td>65997-15-1</td>
<td>75%</td>
<td>n/a</td>
</tr>
<tr>
<td>Tricalcium silicate</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Bismuth oxide</td>
<td>1304-76-3</td>
<td>20%</td>
<td>n/a</td>
</tr>
<tr>
<td>Dicalcium silicate</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Tricalcium aluminate</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Tetra calcium aluminoferrite</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Calcium sulfate dihydrate or gypsum</td>
<td>10101-41-4</td>
<td>5%</td>
<td>n/a</td>
</tr>
</tbody>
</table>

3. Hazard Identification

Emergency Overview

ProRoot® MTA Root Canal Repair Material is a gray powder that poses little immediate hazard. A single short-term exposure to the dry powder is not likely to cause serious harm. However, exposure of sufficient amount and duration (either single or multiple) to moist product can cause serious, potentially irreversible tissue (skin or eye) destruction in the form of chemical (caustic) burns, including third-degree burns. The same type of tissue destruction can occur if wet or moist areas of the body are exposed for sufficient duration to the dry product.

EU Preparation Classification (1995/45/EC):

<table>
<thead>
<tr>
<th>Routes of Exposure</th>
<th>Signs and Symptoms</th>
<th>Acute and Chronic Health Effect(s)</th>
<th>Target Organ(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye</td>
<td>Irritation or inflammation</td>
<td>Blindness in severe cases</td>
<td>eye</td>
</tr>
<tr>
<td>Skin</td>
<td>Skin dryness, mild irritation</td>
<td>Severe skin damage in the form of (caustic) chemical burns.</td>
<td>skin</td>
</tr>
<tr>
<td>Inhalation</td>
<td>Irritation to moist mucous membranes of the nose, throat and upper respiratory system.</td>
<td>Lung injury (silicosis) can occur.</td>
<td>Mucous membranes of nose, throat and upper respiratory system.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>Small quantities are not known to be harmful.</td>
<td>Ill effects are possible if large quantities are consumed.</td>
<td>Digestive system</td>
</tr>
<tr>
<td>Other</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
</tbody>
</table>

Medical Conditions Aggravated by Exposure

Pre-existing upper respiratory and lung diseases.

Carcinogenicity (IARC, NTP)

Ingredients not listed as carcinogens.
## 4. First Aid Measures

<table>
<thead>
<tr>
<th>Routes of Exposure</th>
<th>First Aid Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye</td>
<td>Immediately flush eyes thoroughly with water. Continue flushing eyes for at least 15 minutes, including under the lids.</td>
</tr>
<tr>
<td>Skin</td>
<td>Wash skin with cool water and pH-neutral soap or a mild detergent.</td>
</tr>
<tr>
<td>Inhalation</td>
<td>Remove to fresh air.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>Do not induce vomiting. If conscious, have the victim drink plenty of water.</td>
</tr>
<tr>
<td>Other</td>
<td>n/a</td>
</tr>
</tbody>
</table>

### Note to Physicians (Treatment, Testing, and Monitoring)

n/a

## 5. Fire and Explosion Data

<table>
<thead>
<tr>
<th>Flame Propagation or Burning Rate (for solids)</th>
<th>Properties Contributing to Fire Intensity</th>
<th>Flammability Classification</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Extinguishing Media to Avoid</th>
<th>Extinguishing Media</th>
</tr>
</thead>
<tbody>
<tr>
<td>n/a</td>
<td>n/a</td>
</tr>
</tbody>
</table>

### Protection and Procedures for Firefighters

None required

### Unusual Fire and Explosion Hazards

None

## 6. Accidental Release Measures

### Containment Techniques

Place in appropriate container. Do not attempt to wash down drains.

### Spill/Leak Clean-Up Procedures and Equipment

Collect dry material using a scoop. Avoid actions that cause dust to become airborne. Wear appropriate personal protective equipment.

### Evacuation Procedures

n/a

### Special Instructions

Dispose of waste material according to local, state and federal regulations.

### Reporting Requirements

n/a
7. Handling and Storage

## Handling Practices and Warnings
Promptly remove dusty or wet clothing. Launder before reuse. Use local exhaust ventilation to minimize airborne dusts. Avoid contact with ammonia, ammonia nitrate and chlorine or chlorine containing items.

## Storage Practices and Warnings
Store in a dry area. Store away from food and drinks. Do not store near ammonia, ammonia nitrate and chlorine or chlorine containing items.

8. Exposure Control/Personal Protection

### Occupational Exposure Limits:

- Ventilation: Use local or general ventilation to control exposures.
- Other Engineering Controls: n/a

### Personal Protective Equipment (PPE) for Normal Use:

- Eye/Face: Wear safety glasses with side shields or goggles.
- Skin: Wear protective clothing.

### Personal Protective Equipment (PPE) for Emergencies:

- Eye/Face: Wear unvented or indirectly vented goggles.
- Skin: n/a
- Inhalation: Avoid actions that cause dust to become airborne. Use NIOSH/MA approved respirators in poorly ventilated areas.

9. Physical and Chemical Characteristics

### Appearance

- Gray in color

### Normal Physical State:

- Liquid
- Gas
- Solid

### Boiling Point: n/a

### Melting Point: n/a

### Freezing Point: n/a

### Specific Gravity or Density (H_2O=1)

- 4 to 4.5

### Solubility in Water

- Slightly soluble

### pH

- 12 to 13

### Vapor Pressure (mm Hg.)

- n/a

### Vapor Density (AIR= 1)

- n/a

### Flashpoint:

- n/a

### Flammable (Explosive) Limits in Air

- LEL: n/a
- UEL: n/a

### Auto Ignition Temperature

- n/a

### Other

- n/a
10. Stability and Reactivity Data

Incompatibility (Materials to Avoid): Wet product is alkaline (caustic/basic). It is incompatible with acids, ammonia, ammonia nitrate, ammonium salts, aluminum metal, and chlorine.

Hazardous Products Produced During Decomposition: Decomposition will not spontaneously occur. Addition of water to the powder results in hydration and produces (caustic) calcium hydroxide.

Hazardous Polymerization? | May Occur | X May Not Occur | Conditions to Avoid
--- | --- | --- | ---

Stability? | X Stable | Unstable | Conditions to Avoid
--- | --- | --- | ---

Avoid unintentional contact with water to prevent premature setting/curing.

11. Toxicological Information

No toxicological testing of the special product has been done.

12. Ecological Information

No recognized unusual toxicity to plants or animals.

13. Disposal Considerations

Dispose of waste material according to local, state and federal regulations. Dispose of packaging in an approved landfill or incinerator.

Properties (Physical/Chemical) Affecting Disposal: n/a

14. Transport Information

Regulated for shipping? | Yes | No | Proper Shipping Name | ProRoot® MTA Root Canal Repair Material | Packing Group | n/a
--- | --- | --- | --- | --- | --- | ---

Do changes in quantity, packaging, or shipment method change product classification? | Yes | No | n/a | Hazard Class | Not hazardous | Identification Number | n/a
--- | --- | --- | --- | --- | --- | ---

Other | n/a
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15. Regulatory Information

Status under USDOL-OSHA Hazard Communication Rule, 29 CFR 1910, 1200- The major components of ProRoot® MTA Root Canal Repair Material (calcium silicate compounds and calcium compounds containing iron and aluminum and gypsum) are considered to be “hazardous chemicals” under this regulation; thus, the product should be part of hazard communication program(s).

International Regulations | Not listed.
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Other | n/a
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16. Other Information

This product should be used according to manufacturer’s directions.