SAFETY DATA SHEET
Pulp Canal Sealer EWT Powder

Section 1. Identification

GHS product identifier : Pulp Canal Sealer EWT Powder
Other means of identification : Not available.
Product type : Powder.

Relevant identified uses of the substance or mixture and uses advised against

Product use : Dental product: Endodontic Obturation Systems and Fill Products
Area of application : Professional applications.

Manufacturer : SybronEndo Endodontics
1717 West Collins Avenue
Orange, CA  92867-5422
Telephone no.: 1-800-KERR-123

e-mail address of person responsible for this SDS : edwin.varela@kavokergroup.com

Emergency telephone number (with hours of operation) : CHEMTREC® (24 hours) U.S. : 1-800-424-9300 International: +1-703-527-3887

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Health effects are based on the uncured material.

Classification of the substance or mixture : EYE IRRITATION - Category 2B
Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 74.5%

GHS label elements

Signal word : Warning
Hazard statements : Causes eye irritation.

Precautionary statements

Prevention : Wear eye or face protection. Wash hands thoroughly after handling.
Response : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.
Storage : Not applicable.
Disposal : Not applicable.
Hazards not otherwise classified : Fine dust clouds may form explosive mixtures with air. Handling and/or processing of this material may generate a dust which can cause mechanical irritation of the eyes, skin, nose and throat.

Date of issue/Date of revision : 11/13/2014  Date of previous issue : No previous validation  Version : 1

United States
Section 3. Composition/information on ingredients

Substance/mixture: Mixture
Other means of identification: Not available.

CAS number/other identifiers
- CAS number: Not applicable.
- Product code: Not available.

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Other names</th>
<th>%</th>
<th>CAS number</th>
</tr>
</thead>
<tbody>
<tr>
<td>zinc oxide</td>
<td>zinc oxide</td>
<td>30-60</td>
<td>1314-13-2</td>
</tr>
</tbody>
</table>

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health and hence require reporting in this section.

Section 4. First aid measures

Description of necessary first aid measures

**Eye contact**: No special measures are required. In case of contact with eyes, rinse immediately with plenty of water. Get medical attention if symptoms occur.

**Inhalation**: No special measures required. If inhaled, remove to fresh air. Get medical attention if symptoms occur.

**Skin contact**: No special measures required. In case of contact, immediately flush skin with plenty of water. Get medical attention if symptoms occur.

**Ingestion**: Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Get medical attention if adverse health effects persist or are severe.

Notes to physician: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

**Specific treatments**: No specific treatment.

Potential acute health effects

**Eye contact**: Causes eye irritation.

**Inhalation**: Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs.

**Skin contact**: No known significant effects or critical hazards.

**Ingestion**: May be irritating to mouth, throat and stomach.

**Over-exposure signs/symptoms**

**Eye contact**: Adverse symptoms may include the following:
- Irritation
- Watering
- Redness

**Inhalation**: Adverse symptoms may include the following:
- Respiratory tract irritation
- Coughing

**Skin contact**: No specific data.

**Ingestion**: No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments: No specific treatment.
Section 4. First aid measures

Protection of first-aiders: In case of major fire and large quantities: No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media
- Suitable extinguishing media: Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media: Do not use water jet.

Specific hazards arising from the chemical
- Hazardous thermal decomposition products: Decomposition products may include the following materials:
  - carbon dioxide
  - carbon monoxide
  - metal oxide/oxides

No specific fire or explosion hazard.

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Environmental precautions
- Small Quantity. For professional use only. Absorb with an inert material and place in an appropriate waste disposal container.
- Large spill: Small Quantity. For professional use only. Absorb with an inert material and place in an appropriate waste disposal container.

Methods and materials for containment and cleaning up
- Small spill: Small Quantity. For professional use only. Absorb with an inert material and place in an appropriate waste disposal container.

Section 7. Handling and storage

Advice on general occupational hygiene
- Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Section 7. Handling and storage

Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Exposure limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>zinc oxide</td>
<td>NIOSH REL (United States, 10/2013). CEIL: 15 mg/m³ 10 hours. Form: Dust and fumes</td>
</tr>
<tr>
<td></td>
<td>TWA: 5 mg/m³ 10 hours. Form: Dust and fumes</td>
</tr>
<tr>
<td></td>
<td>STEL: 10 mg/m³ 15 minutes. Form: Fume</td>
</tr>
<tr>
<td></td>
<td>OSHA PEL 1989 (United States, 3/1989). TWA: 5 mg/m³ 8 hours. Form: Fume</td>
</tr>
<tr>
<td></td>
<td>STEL: 10 mg/m³ 15 minutes. Form: Fume</td>
</tr>
<tr>
<td></td>
<td>TWA: 5 mg/m³ 8 hours. Form: Respirable fraction</td>
</tr>
<tr>
<td></td>
<td>TWA: 10 mg/m³ 8 hours. Form: Total dust</td>
</tr>
<tr>
<td></td>
<td>OSHA PEL (United States, 2/2013). TWA: 5 mg/m³ 8 hours. Form: Fume</td>
</tr>
<tr>
<td></td>
<td>TWA: 5 mg/m³ 8 hours. Form: Respirable fraction</td>
</tr>
<tr>
<td></td>
<td>TWA: 15 mg/m³ 8 hours. Form: Total dust</td>
</tr>
<tr>
<td></td>
<td>OSHA PEL (United States, 2/2013). TWA: 5 mg/m³ 8 hours. Form: Fume</td>
</tr>
<tr>
<td></td>
<td>TWA: 5 mg/m³ 8 hours. Form: Respirable fraction</td>
</tr>
<tr>
<td></td>
<td>STEL: 10 mg/m³ 15 minutes. Form: Respirable fraction</td>
</tr>
</tbody>
</table>

Appropriate engineering controls

No special measures are required for small quantities under normal and intended conditions of product use.

Environmental exposure controls

No special measures are required for small quantities under normal and intended conditions of product use.

Individual protection measures

Hygiene measures

No special measures are required for small quantities under normal and intended conditions of product use.

Eye/face protection

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles. If operating conditions cause high dust concentrations to be produced, use dust goggles.

Skin protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

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Version: 1

United States
Section 8. Exposure controls/personal protection

**Body protection**: No special measures are required for small quantities under normal and intended conditions of product use.

**Other skin protection**: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection**: No special measures are required for small quantities under normal and intended conditions of product use.

Section 9. Physical and chemical properties

**Appearance**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Solid. [Powder.]</td>
</tr>
<tr>
<td>Color</td>
<td>Beige.</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless.</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>Not available.</td>
</tr>
<tr>
<td>pH</td>
<td>Not available.</td>
</tr>
<tr>
<td>Melting point</td>
<td>Not available.</td>
</tr>
<tr>
<td>Boiling point</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not available.</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Lower and upper explosive (flammable) limits</td>
<td>Not available.</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>Not available.</td>
</tr>
<tr>
<td>Vapor density</td>
<td>Not available.</td>
</tr>
<tr>
<td>Relative density</td>
<td>&gt;1 [Water = 1]</td>
</tr>
<tr>
<td>Solubility</td>
<td>Insoluble in the following materials: cold water and hot water.</td>
</tr>
<tr>
<td>Solubility in water</td>
<td>Not available.</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>Not available.</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not available.</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not available.</td>
</tr>
<tr>
<td>SADT</td>
<td>Not available.</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

Section 10. Stability and reactivity

**Reactivity**: No specific test data related to reactivity available for this product or its ingredients.

**Chemical stability**: The product is stable.

**Possibility of hazardous reactions**: Under normal conditions of storage and use, hazardous reactions will not occur.

**Conditions to avoid**: No specific data.

**Incompatible materials**: No specific data.
Section 10. Stability and reactivity

**Hazardous decomposition products**: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

**Information on toxicological effects**

**Acute toxicity**

Not available.

**Conclusion/Summary**

**Irritation/Corrosion**: Based on the criteria of the protocol, this product is considered cytotoxic per USP 23.

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Score</th>
<th>Exposure</th>
<th>Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>zinc oxide</td>
<td>Eyes - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Skin - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>milligrams</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>24 hours 500</td>
<td></td>
</tr>
</tbody>
</table>

**Conclusion/Summary**

**Skin**: May cause skin irritation.

**Sensitization**

Not available.

**Conclusion/Summary**

**Skin**: Kligman score: Grade I (weak sensitizer)

**Mutagenicity**

Not available.

**Conclusion/Summary**

**Skin**: Not mutagenic in Ames test.

**Carcinogenicity**

Not available.

**Reproductive toxicity**

Not available.

**Teratogenicity**

Not available.

**Specific target organ toxicity (single exposure)**

Not available.

**Specific target organ toxicity (repeated exposure)**

Not available.

**Aspiration hazard**

Not available.

**Information on the likely routes of exposure**

**Potential acute health effects**

**Eye contact**: Causes eye irritation.

**Inhalation**: Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs.

**Skin contact**: No known significant effects or critical hazards.

**Ingestion**: May be irritating to mouth, throat and stomach.

**Date of issue/Date of revision**: 11/13/2014

**Date of previous issue**: No previous validation

**Version**: 1
Section 11. Toxicological information

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact: Adverse symptoms may include the following:
- irritation
- watering
- redness

Inhalation: Adverse symptoms may include the following:
- respiratory tract irritation
- coughing

Skin contact: No specific data.

Ingestion: No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects: Not available.

Potential delayed effects: Not available.

Long term exposure

Potential immediate effects: Not available.

Potential delayed effects: Not available.

Potential chronic health effects

Not available.

General: Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation.

Carcinogenicity: No known significant effects or critical hazards.

Mutagenicity: No known significant effects or critical hazards.

Teratogenicity: No known significant effects or critical hazards.

Developmental effects: No known significant effects or critical hazards.

Fertility effects: No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 12. Ecological information

Toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>zinc oxide</td>
<td>Acute EC50 0.042 mg/l Fresh water</td>
<td>Algae - Pseudokirchneriella subcapitata</td>
<td>72 hours</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Exponential growth phase</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Daphnia - Daphnia magna</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Neonate</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Acute LC50 98 µg/l Fresh water</td>
<td>Fish - Oncorhynchus mykiss</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Oncorhynchus mykiss</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Acute LC50 1.1 ppm Fresh water</td>
<td>Algae - Pseudokirchneriella subcapitata</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Exponential growth phase</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC 0.017 mg/l Fresh water</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Persistence and degradability

Date of issue/Date of revision: 11/13/2014  Date of previous issue: No previous validation  Version: 1  7/11

United States
Section 12. Ecological information

Not available.

Bioaccumulative potential

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>LogPow</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>zinc oxide</td>
<td></td>
<td>60960</td>
<td>high</td>
</tr>
</tbody>
</table>

Mobility in soil

Soil/water partition coefficient (Koc) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

Section 14. Transport information

<table>
<thead>
<tr>
<th>DOT Classification</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN number</td>
<td>UN3077</td>
<td>UN3077</td>
</tr>
<tr>
<td>UN proper shipping name</td>
<td>Environmentally hazardous substances, solid, n.o.s. (zinc oxide, silver). Marine pollutant RQ (silver)</td>
<td>ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (zinc oxide, silver). Marine pollutant (zinc oxide, silver)</td>
</tr>
</tbody>
</table>

Transport hazard class(es) 9

Packing group III

Environmental hazards Yes.

Additional information Non-bulk packages of this product are not regulated as hazardous materials in package sizes less than the product reportable quantity, unless transported by inland waterway. The marine pollutant mark is not required when transported on inland waterways in sizes of ≤5 L or ≤5 kg. The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg. The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.

Reportable quantity 3344.5 lbs / 1518.4 kg Package sizes shipped in quantities less than the product reportable quantity are not

Emergency schedules (EmS) F-A, S-F

Special provisions 274, 335, 966, 967

United States
Section 14. Transport information

<table>
<thead>
<tr>
<th>Subject to the RQ (reportable quantity) transportation requirements.</th>
<th>Limited quantity</th>
<th>Yes.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Special provisions</strong></td>
<td>8, 146, 335, A112, B54, B120, IB8, IP3, N20, T1, TP33</td>
<td>A97, A158, A179</td>
</tr>
</tbody>
</table>

**Special precautions for user**: Transport within user’s premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**: Not available.

Section 15. Regulatory information

**U.S. Federal regulations**

- Clean Water Act (CWA) 307: zinc oxide; silver
- Clean Water Act (CWA) 311: propionic acid
- Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs): Not listed
- Clean Air Act Section 602 Class I Substances: Not listed
- Clean Air Act Section 602 Class II Substances: Not listed
- DEA List I Chemicals (Precursor Chemicals): Not listed
- DEA List II Chemicals (Essential Chemicals): Not listed

**SARA 302/304**

- Composition/information on ingredients: No products were found.
- SARA 304 RQ: Not applicable.
- SARA 311/312 Classification: Immediate (acute) health hazard

**Composition/information on ingredients**

<table>
<thead>
<tr>
<th>Name</th>
<th>%</th>
<th>Fire hazard</th>
<th>Sudden release of pressure</th>
<th>Reactive</th>
<th>Immediate (acute) health hazard</th>
<th>Delayed (chronic) health hazard</th>
</tr>
</thead>
</table>

Date of issue/Date of revision: 11/13/2014
Date of previous issue: No previous validation
Version: 1

United States
Section 15. Regulatory information

SARA 313

<table>
<thead>
<tr>
<th>Form R - Reporting requirements</th>
<th>Product name</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>zinc oxide</td>
<td>1314-13-2</td>
<td>30-60</td>
</tr>
<tr>
<td></td>
<td>silver</td>
<td>7440-22-4</td>
<td>10-30</td>
</tr>
<tr>
<td>Supplier notification</td>
<td>zinc oxide</td>
<td>1314-13-2</td>
<td>30-60</td>
</tr>
<tr>
<td></td>
<td>silver</td>
<td>7440-22-4</td>
<td>10-30</td>
</tr>
</tbody>
</table>

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations

Massachusetts: The following components are listed: ZINC OXIDE FUME; SILVER
New York: The following components are listed: Silver
New Jersey: The following components are listed: ZINC OXIDE; SILVER
Pennsylvania: The following components are listed: ZINC OXIDE (ZNO); SILVER
California Prop. 65:
None of the components are listed.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health * 1
Flammability 0
Physical hazards 0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)

Health 1 0
Flammability 0
Instability/Reactivity
Special

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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

History

Date of issue/Date of revision: 11/13/2014
Date of previous issue: No previous validation
Version: 1
Section 16. Other information

Prepared by : IHS

Key to abbreviations : ATE = Acute Toxicity Estimate
                        BCF = Bioconcentration Factor
                        GHS = Globally Harmonized System of Classification and Labelling of Chemicals
                        IATA = International Air Transport Association
                        IBC = Intermediate Bulk Container
                        IMDG = International Maritime Dangerous Goods
                        LogPow = logarithm of the octanol/water partition coefficient
                        UN = United Nations

References : HCS (U.S.A.)- Hazard Communication Standard
             International transport regulations

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.