



# SAFETY DATA SHEET

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HY-Bond Temporary Cement  
A ZINC OXIDE EUGNOL CEMENT LIQUID  
Printing date: August 26, 2019

## SECTION 1. Identification of the substance or mixture and of the supplier

### 1.1 Product identifier

Trade Name:

**HY-Bond Temporary Cement A ZINC OXIDE EUGNOL CEMENT "LIQUID"**

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

Relevant identified uses: Dental material

Uses advised against: No further data

### 1.3 Details of the supplier of the safety data sheet

Company/Undertaking identification

Manufacturer's Name: **SHOFU DENTAL CORPORATION**

Address: 1225 Stone Drive, San Marcos, CA 92078 USA

Toll Free: 1-800-827-4638

Phone: 760-736-3277

Fax: 760-736-3276

E-Mail: customer-service@shofu.com

Section in Charge: Quality Management & Regulatory Affairs

### 1.4 Emergency Telephone Number

For emergencies only. Call CHEMTREC: +1 703-741-5970 / 1-800-424-9300 (24 hours)

## SECTION 2. Hazards identification

### 2.1 GHS Classification

HEALTH HAZARDS

SKIN CORROSION/IRRITATION

Category 2

EYE DAMAGE/IRRITATION

Category 2A

SPECIFIC TARGET ORGAN SYSTEMIC TOXICITY (SINGLE EXPOSURE)

Category 3 (respiratory tract irritation)

The thing without mention is out of a classification object. Or cannot classify it.

### 2.2 Label elements

SYMBOL



GHS07

SIGNAL WORD Warning

HAZARD STATEMENTS

Causes skin irritation

Causes serious eye irritation

May cause respiratory irritation



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## PRECAUTIONARY STATEMENTS

### [Prevention]

- Obtain special instruction before use.
- Do not handle until all safety precautions have been read and understood.
- Avoid breathing dust/fume/gas/mist/vapours/spray.
- Wash hands thoroughly after handling.
- Use only outdoors or in a well-ventilated area.
- Wear protective gloves/protective clothing/eye protection/face protection.

### [Response]

- IF ON SKIN: Wash with plenty of water and soap.
- If skin irritation occurs: Get medical advice/attention.
- IF INHALED: Remove person to fresh air and keep comfortable for breathing. Get medical advice/attention if you feel unwell.
- 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 advice/attention.

### [Storage]

Store in a cool and dark area.

### [Disposal]

Dispose of contents and container in accordance with regulation.

## 2.3 Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

## SECTION 3. Composition/information on ingredients

- 3.1 Chemical characterization: Substance
- 3.2 Description: -
- 3.3 Dangerous components: Void  
Clove Oil [Cas No.8000-34-8]
- 3.4 Additional information: For the wording of the listed risk phrases refer to section 2

## SECTION 4. First-aid measures

- 4.1 Description of first aid measures
  - Eye contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. If eye irritation persists, get medical advice/attention.
  - Skin contact: Wash immediately with soap and plenty of water. If on skin, skin irritation, get medical advice/attention.
  - Ingestion: Rinse mouth and seek medical advice if necessary.
  - Inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If symptom concerning breath goes out, call a POISON CENTER or doctor.
- 4.2 Most important symptoms and effects, both acute and delayed  
No further relevant information available.
- 4.3 Indication of any immediate medical attention and special treatment needed  
No further relevant information available.



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## SECTION 5. Fire-fighting measures

- 5.1 Extinguishing Media:  
Foam, CO<sub>2</sub>, Powder, Dry sand
- 5.2 Special hazards arising from the substance or mixture:  
Irritation gas and fume may emits.
- 5.3 Advice for firefighters:  
Wear fire protective cloth and self-contained breathing apparatus, if necessary.

## SECTION 6. Accidental release measures

- 6.1 Personal precautions, protective equipment and emergency procedures:  
Avoid contact with eyes and skin.
- 6.2 Environmental Precautions:  
Send to approved treatment/disposal company or dispose according to local, state and federal regulations.
- 6.3 Methods and material for containment and cleaning Up:  
Wipe up and discard in a suitable container.
- 6.4 Reference to other section:  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

## SECTION 7. Handling and storage

- 7.1 Precautions for safe handling:  
Avoid inhaling and contact with eyes and skin.
- 7.2 Conditions for safe storage, including any incompatibilities:  
Store in a cool and dry place out of direct sunlight and source of ignition.  
Keep containers closed.
- 7.3 Specific end use(s):  
No further relevant information available.

## SECTION 8. Exposure controls/personal protection

- 8.1 Control parameters:  
Ingredients with limit values that require monitoring at the workplace:  
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- 8.2 Exposure controls:  
Respiratory Protection:  
Protective mask  
Skin Protection:  
Hand Protection  
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/the chemical mixture.  
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.



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- Material of gloves  
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- Penetration time of glove material  
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- For the permanent contact of a maximum of 15 minutes gloves made of the following materials are suitable:  
Butyl rubber, BR  
Nitrile rubber, NBR

Eye Protection: Safety goggles

## SECTION 9. Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

|  |   |
|--|---|
| Appearance/Odor/Colour:                      | Yellowish sticky liquid with stimulate Odor |
| Odour threshold                              | Not determined.                             |
| pH   | Not determined.                             |
| Melting point/freezing point                 | Not determined.                             |
| Boiling Point:                               | Not determined.                             |
| Flash point:                                 | 126 °C                                      |
| Evaporation rate                             | Not determined.                             |
| Flammability (solid, gas)                    | Not applicable.                             |
| Upper/lower flammability or explosive limits | Not determined.                             |
| Vapour pressure                              | Not determined.                             |
| Vapour density                               | Not determined.                             |
| Relative Density:                            | 1.1 (water=1)                               |
| Solubility: water solubility                 | Immiscible with water                       |
| Partition coefficient: n-octanol/water       | Not determined.                             |
| Auto-ignition temperature                    | Not determined.                             |
| Decomposition temperature                    | Not determined.                             |
| Viscosity                                    | Not determined.                             |
| Explosive properties                         | Not applicable.                             |
| Oxidising properties                         | Not applicable.                             |

### 9.2 Other information

No further relevant information available.

## SECTION 10. Stability and reactivity

### 10.1 Reactivity:

No further relevant information available.

### 10.2 Chemical stability:

Stable under normal temperatures and pressures.



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- 10.3 Possibility of hazardous reactions:  
No dangerous reactions known.
- 10.4 Condition to Avoid:  
Avoid direct sunlight and high temperature.
- 10.5 Incompatible materials:  
No further relevant information available.
- 10.6 Hazardous Decomposition Products:  
None under normal conditions of storage and use.

## SECTION 11. Toxicological information

- 11.1 Information on toxicological effects:
- |                 |            |        |        |      |            |
|-----------------|------------|--------|--------|------|------------|
| Acute toxicity: | Clove Oil; | Oral   | rat    | LD50 | 1370 mg/kg |
|                 |            | Dermal | rabbit | LD50 | 1200 mg/kg |
- Skin corrosion/irritation: Skin Irrit. 2; H315 Causes skin irritation.  
Eye damage/irritation: Eye Irrit. 2A; H319 Causes serious eye irritation.  
Sensitization to the respiratory tract:  
Based on available data, the classification criteria are not met.  
Skin sensitization: Based on available data, the classification criteria are not met.  
Germ cell mutagenicity/Genotoxicity:  
Based on available data, the classification criteria are not met.  
Carcinogenicity: Based on available data, the classification criteria are not met.  
Reproductive toxicity: Based on available data, the classification criteria are not met.  
Effects on or via lactation: Lack of data.  
Specific target organ toxicity (single exposure):  
STOT SE 3; H335 May cause respiratory irritation.  
Specific target organ toxicity (repeated exposure):  
Based on available data, the classification criteria are not met.  
Aspiration hazard: Based on available data, the classification criteria are not met.

## SECTION 12. Ecological information

- 12.1 Toxicity:  
No further relevant information available.
- 12.2 Persistence and degradability:  
No further relevant information available.
- 12.3 Bioaccumulative potential:  
No further relevant information available.
- 12.4 Mobility in soil:  
No further relevant information available.
- 12.5 Results of PBT and vPvB assessment:  
Not applicable.
- 12.6 Other adverse effects:  
No further relevant information available.



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## SECTION 13. Disposal considerations

### 13.1 Waste treatment methods:

Dispose of contents/container to in accordance with local/regional/national/international regulations.

## SECTION 14. Transport information

- |   |                 |
|---|-----------------|
| 14.1 UN number:   | Void            |
| 14.2 UN proper shipping name:   | Void            |
| 14.3 Transport hazard class(es):  | Void            |
| 14.4 Packing group:   | Void            |
| 14.5 Environmental hazards:   | No              |
| 14.6 Special precautions for user:  | Not applicable. |
| 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: | Not applicable. |

## SECTION 15. Regulatory informati

Follow all regulations in your country.

## SECTION 16. Other information

This product is intended for use by dental professionals. (instrument/material)

### Relevant phrases:

- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H335 May cause respiratory irritation.

### Abbreviations and acronyms:

- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- LD50: Lethal dose, 50 percent
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative



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## SECTION 1. Identification of the substance or mixture and of the supplier

- 1.1 Product identifier  
Trade Name:  
**HY-Bond Temporary Cement A ZINC OXIDE EUGNOL CEMENT "POWDER"**
- 1.2 Relevant identified uses of the substance or mixture and uses advised against  
Relevant identified uses: Dental material  
Uses advised against: No further data
- 1.3 Details of the supplier of the safety data sheet  
Company/Undertaking identification  
Manufacturer's Name: **SHOFU DENTAL CORPORATION**  
Address: 1225 Stone Drive, San Marcos, CA 92078 USA  
Toll Free: 1-800-827-4638  
Phone: 760-736-3277  
Fax: 760-736-3276  
E-Mail: customer-service@shofu.com  
Section in Charge: Quality Management & Regulatory Affairs
- 1.4 Emergency Telephone Number  
For emergencies only. Call CHEMTREC: +1 703-741-5970 / 1-800-424-9300 (24 hours)

## SECTION 2. Hazards identification

- 2.1 GHS Classification  
HEALTH HAZARDS
    - ACUTE TOXICITY-INHALATION(DUST, MIST) Category 4
    - SKIN CORROSION/IRRITATION Category 1
    - EYE DAMAGE/IRRITATION Category 1
    - SENSITIZATION-RESPIRATORY Category 1
    - SENSITIZATION-SKIN Category 1
    - SPECIFIC TARGET ORGAN SYSTEMIC TOXICITY (SINGLE EXPOSURE)  
Category 1 (systemic toxicity)  
Category 2 (bone)
    - SPECIFIC TARGET ORGAN SYSTEMIC TOXICITY (REPEATED EXPOSURE)  
Category 1(lung)
  - ENVIRONMENTAL HAZARD
    - HAZARDOUS TO THE AQUATIC ENVIRONMENT-ACUTE HAZARD  
Category 2
    - HAZARDOUS TO THE AQUATIC ENVIRONMENT-CHRONIC HAZARD  
Category 3
- The thing without mention is out of a classification object. Or cannot classify it.
- 2.2 Label elements  
SYMBOL



GHS05    GHS07    GHS08



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**SIGNAL WORD** Danger

## HAZARD STATEMENTS

- Causes severe skin burns and eye damage
- May cause an allergic skin reaction
- Harmful if inhaled
- May cause allergy or asthma symptoms or breathing difficulties if inhaled
- Causes damage to organs (systemic toxicity)
- May cause damage to organs (bone)
- Causes damage to organs through prolonged or repeated exposure (lung)
- Toxic to aquatic life.
- Harmful to aquatic life with long lasting effects

## PRECAUTIONARY STATEMENTS

### [Prevention]

- Obtain special instruction before use.
- Do not handle until all safety precautions have been read and understood.
- Do not breathe dust/fume/gas/mist/vapours/spray.
- Wash hands thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Use only outdoors or in a well-ventilated area.
- Avoid release to the environment.
- Wear protective gloves/protective clothing/eye protection/face protection.

### [Response]

- IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
- IF ON SKIN or hair: Take off immediately all contaminated clothing. Rinse skin with water or shower.
- If skin irritation or rash occurs: Get medical advice/attention.
- IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- Get medical advice/attention if you feel unwell.

Collect spillage.

### [Storage]

Store in a cool and dark area.

### [Disposal]

Dispose of contents and container in accordance with regulation.

## 2.3 Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

## SECTION 3. Composition/information on ingredients

3.1 Chemical characterization: Mixtures

3.2 Description: Mixture of substances listed below with nonhazardous additions.

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- 3.3 Dangerous components:
- |                                |         |
|--------------------------------|---------|
| Zinc Oxide [Cas No. 1314-13-2] | 60-70 % |
| Rosin [Cas No. 8050-09-7]      | 20-30 % |
| Others                         |         |
- 3.4 Additional information: For the wording of the listed risk phrases refer to section 2

## SECTION 4. First-aid measures

- 4.1 Description of first aid measures
- Eye contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present. and easy to do. If eye irritation persists, get medical advice/attention.
- Skin contact: Wash immediately with soap and plenty of water. If on skin, skin irritation, get medical advice/attention.
- Ingestion: Rinse mouth and seek medical advice if necessary.
- Inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If symptom concerning breath goes out, call a POISON CENTER or doctor.
- 4.2 Most important symptoms and effects, both acute and delayed  
No further relevant information available.
- 4.3 Indication of any immediate medical attention and special treatment needed  
No further relevant information available.

## SECTION 5. Fire-fighting measures

- 5.1 Extinguishing Media:  
This product is not flammable.
- 5.2 Special hazards arising from the substance or mixture:  
No further relevant information available.
- 5.3 Advice for firefighters:  
No special measures required.

## SECTION 6. Accidental release measures

- 6.1 Personal precautions, protective equipment and emergency procedures:  
Avoid contact with eyes and skin. Do not breathe dust.
- 6.2 Environmental Precautions:  
Send to approved treatment/disposal company or dispose according to local, state and federal regulations.
- 6.3 Methods and material for containment and cleaning Up:  
Wipe up and discard in a suitable container.
- 6.4 Reference to other section:  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

## SECTION 7. Handling and storage

- 7.1 Precautions for safe handling:  
Handle in a well ventilated area. Avoid prolonged inhalation.
- 7.2 Conditions for safe storage, including any incompatibilities:  
Store in a cool and dry conditions with lid tightly closed.



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7.3 Specific end use(s):  
No further relevant information available.

## SECTION 8. Exposure controls/personal protection

8.1 Control parameters:

|                 |                             |          |                          |
|-----------------|-----------------------------|----------|--------------------------|
| Exposure limits | Zinc Oxide;<br>[ACGIH 2013] | TLV-TWA  | 2 mg/m <sup>3</sup> (R)  |
|                 |                             | TLV-STEL | 10 mg/m <sup>3</sup> (R) |

8.2 Exposure controls:

Respiratory Protection:

Dust mask

Skin Protection:

Hand Protection

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

· Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· For the permanent contact of a maximum of 15 minutes gloves made of the following materials are suitable:

Butyl rubber, BR

Nitrile rubber, NBR

Eye Protection: Safety goggles

## SECTION 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

|  |                                 |
|--|---------------------------------|
| Appearance/Odor/Colour:                      | Yellowish white odorless powder |
| Odour threshold                              | Not determined.                 |
| pH   | Not determined.                 |
| Melting point/freezing point                 | Not determined.                 |
| Boiling Point:                               | Not determined.                 |
| Flash point:                                 | Not determined.                 |
| Evaporation rate                             | Not determined.                 |
| Flammability (solid, gas)                    | Not applicable.                 |
| Upper/lower flammability or explosive limits | Not determined.                 |
| Vapour pressure                              | Not determined.                 |



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|  |                 |
|--|-----------------|
| Vapour density                         | Not determined. |
| Relative Density:                      | ≈ 2.3 (water=1) |
| Solubility: water solubility           | Insoluble.      |
| Partition coefficient: n-octanol/water | Not determined. |
| Auto-ignition temperature              | Not determined. |
| Decomposition temperature              | Not determined. |
| Viscosity                              | Not determined. |
| Explosive properties                   | Not applicable. |
| Oxidising properties                   | Not applicable. |

9.2 Other information  
No further relevant information available.

## SECTION 10. Stability and reactivity

- 10.1 Reactivity:  
No further relevant information available.
- 10.2 Chemical stability:  
Stable under normal temperatures and pressures.
- 10.3 Possibility of hazardous reactions:  
No dangerous reactions known.
- 10.4 Condition to Avoid:  
Avoid direct sunlight and high temperature.
- 10.5 Incompatible materials:  
No further relevant information available.
- 10.6 Hazardous Decomposition Products:  
None under normal conditions of storage and use.

## SECTION 11. Toxicological information

- 11.1 Information on toxicological effects:
- Acute toxicity: Acute Tox. 4; H332 Harmful if inhaled.  
Zinc oxide;
- |                   |        |      |              |
|-------------------|--------|------|--------------|
| Oral              | rat    | LD50 | > 5000 mg/kg |
| Dermal            | rabbit | LD50 | > 5000 mg/kg |
| Inhalation (dust) | rat    | LC50 | > 5.7 mg/L   |
- Rosin;
- |        |        |      |              |
|--------|--------|------|--------------|
| Oral   | rat    | LD50 | 7800 mg/kg   |
| Dermal | rabbit | LD50 | > 2500 mg/kg |
- Skin corrosion/irritation: Skin Irrit. 1; H314 Causes severe skin burns and eye damage.  
Eye damage/irritation: Eye Dam.1 ; H314 Causes severe skin burns and eye damage.  
Sensitization to the respiratory tract:  
Resp. Sens.1; H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- Skin sensitization: Skin Sens.1 ; H317 May cause an allergic skin reaction.
- Germ cell mutagenicity/Genotoxicity:  
Based on available data, the classification criteria are not met.
- Carcinogenicity: Based on available data, the classification criteria are not met.  
Reproductive toxicity: Based on available data, the classification criteria are not met.  
Effects on or via lactation: Lack of data.



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Specific target organ toxicity (single exposure):  
STOT SE 1; H370 Causes damage to organs (systemic toxicity).  
STOT SE 2; H371 May cause damage to organs (bone).

Specific target organ toxicity (repeated exposure):  
STOT RE 1; H372 Causes damage to organs through prolonged or repeated exposure (lung).

Aspiration hazard: Based on available data, the classification criteria are not met.

## SECTION 12. Ecological information

- 12.1 Toxicity:  
No further relevant information available.
- 12.2 Persistence and degradability:  
No further relevant information available.
- 12.3 Bioaccumulative potential:  
No further relevant information available.
- 12.4 Mobility in soil:  
No further relevant information available.
- 12.5 Results of PBT and vPvB assessment:  
Not applicable.
- 12.6 Other adverse effects:  
No further relevant information available.

## SECTION 13. Disposal considerations

- 13.1 Waste treatment methods:  
Dispose of contents/container to in accordance with local/regional/national/international regulations.

## SECTION 14. Transport information

- 14.1 UN number: 3077
- 14.2 UN proper shipping name: Environmentally hazardous substance, solid, n.o.s.
- 14.3 Transport hazard class(es): 9
- 14.4 Packing group: III
- 14.5 Environmental hazards: Yes
- 14.6 Special precautions for user: Not applicable.
- 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:  
Not applicable.

## SECTION 15. Regulatory information

Follow all regulations in your country.

## SECTION 16. Other information

This product is intended for use by dental professionals. (instrument/material)

Relevant phrases:

- H314 Causes severe skin burns and eye damage.  
H317 May cause an allergic skin reaction.



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- H332 Harmful if inhaled.
- H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- H370 Causes damage to organs (systemic toxicity).
- H371 May cause damage to organs (bone).
- H372 Causes damage to organs through prolonged or repeated exposure (lung).
- H401 Toxic to aquatic life.
- H412 Harmful to aquatic life with long lasting effects.

#### Abbreviations and acronyms:

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

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