SAFETY DATA SHEET

SCTION 1. Identification of the substance or mixture and of the supplier

1.1 Product identifier

Trade Name:

HY-Bond Zinc Phosphate 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 date 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)

SCTION 2. Hazards identification

2.1 GHS Classification

HEALTH HAZARDS

ACUTE TOXICITY-ORAL	Category 4
SKIN CORROSION/IRRITATION	Category 1A
EYE DAMAGE/IRRITATION	Category 1
SPECIFIC TARGET ORGAN SYSTEMIC TOXICITY (SINGLE EXPOSURE)	Category 2 (systemic toxicity) Category 3 (respiratory tract irritation)
SPECIFIC TARGET ORGAN SYSTEMIC TOXICITY (REPEATED EXPOSURE)	Category 2 (lung)

ENVIRONMENTAL HAZARD

HAZARDOUS TO THE AQUATIC ENVIRONMENT-ACUTE HAZARD	Category 2
HAZARDOUS TO THE AQUATIC ENVIRONMENT-CHRONIC HAZARD	Category 2

2.2 Label elements

SYMBOL

GHS05 GHS07 GHS08

SIGNAL WORD: Danger

HAZARD STATEMENTS

Harmful if swallowed.
Causes severe skin burns and eye damage.
May cause respiratory irritation.
May cause damage to organs (systemic toxicity).
May cause damage to organs through prolonged or repeated exposure (lung).
Toxic 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 INHALED: Remove person to fresh air and keep comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Call a POISON CENTER/doctor if you feel unwell.
[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.

SCTION 3. Composition/information on ingredients

3.1 Chemical characterization: Mixtures

3.2 Ingredients and composition:

Component	CAS-No	Weight %
Phosphoric acid	7664-38-2	50-60
Aluminum hydroxide	—	1-10
Zinc oxide	1314-13-2	1-5
Water	—	30-35

3.3 Additional information: For the wording of the listed risk phrases refer to section 2

SCTION 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.

SCTION 5. Fire-fighting measures

5.1 Extinguishing Media:

Foam, CO_2, Powder, Dry sand

5.2 Special hazards arising from the substance or mixture:

In case of fire, irritation gases and fumes may emit.

5.3 Advice for firefighters:

Wear fire protective cloth and self-contained breathing apparatus, if necessary.

SCTION 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:

Avoid contact with eyes and skin.

6.2 Environmental Precautions:

Do not allow product to reach sewage system or water bodies.

Do not allow to enter the ground/soil.

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.

SCTION 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.

Keep containers closed.

7.3 Specific end use(s):

No further relevant information available.

SCTION 8. Exposure controls/personal protection

8.1 Control parameters:

Exposure limits	Phosphoric acid;		
	[ACGIH 2014]	TLV-TWA	1 mg/m^3
		TLV-STEL	3 mg/m^3
	Zinc Oxide;		
	[ACGIH 2013]	TLV-TWA	2 mg/m^3 (R)
		TLV-STEL	10 mg/m^3 (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

SCTION 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties:

Appearance/Odor/Colour:	Odourless, color less liquid.
Odour threshold:	Not determined.
pH:	1-3 (as a 2% solution)
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.
Vapour density:	Not determined.

Relative density:	1.59 (water=1)
Solubility: water solubility	Soluble.
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.

SCTION 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.

SCTION 11. Toxicological information

11.1 Information on toxicological effects:

Acute toxicity: Acute Tox. 4; H302 Harmful if swallowed.

Phosphoric acid;

Oral	rat	LD50	1250 mg/kg
Dermal	rabbit	LD50	2740 mg/kg
Inhalation	rat	LC50	> 0.85 mg/L (4H)

Zinc oxide;

Oral	rat	LD50	> 5000 mg/kg
Dermal	rabbit	LD50	> 5000 mg/kg
Inhalation (dust)	rat	LC50	> 5.7 mg/L

Skin corrosion/irritation: Skin Corr. 1A; 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:

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 2; H371 May cause damage to organs (systemic toxicity).
STOT SE 3; H335 May cause respiratory irritation.
Specific target organ toxicity (repeated exposure):
STOT RE 3; H373 May cause damage to organs through prolonged or repeated exposure (lung).
Aspiration hazard: Based on available data, the classification criteria are not met.

11.2 Information on other hazards:
No further relevant information available.

SCTION 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.

SCTION 13. Disposal considerations

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

SCTION 14. Transport information

14.1	UN number:	1805
14.2	UN proper shipping name:	Phosphoric acid, solution
14.3	Transport hazard class (es):	8 Corrosive substances.
14.4	Packing group:	III
14.5	Environmental hazards:	No further relevant information available.
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.

SCTION 15. Regulatory information

Follow all regulations in your country.

SCTION 16. Other information

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

NFPA ratings (scale 0-4)

Phosphoric acid;

Health = 3
Fire = 0
Reactivity = 0

HMIS ratings (scale 0-4)

Phosphoric acid;

Health Hazard	3
Fire Hazard	0
Reactivity	0

Health = 3
Fire = 0
Reactivity = 0

Relevant phrases:

H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H335 May cause respiratory irritation.
H371 May cause damage to organs (systemic toxicity).
H373 May cause damage to organs through prolonged or repeated exposure (lung).
H411 Toxic 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