

1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name : ZOBSEAL(Powder)

Product code : D1ZBS00

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

Root canal sealing materials

1.3. Details of the supplier of the safety data sheet

Registered company name : METABIOMED CO., LTD.

Address : Head Office & Osong Factory) 270, Osongsaengmyeong1-ro, Osong-eup, Heungdeok-gu,
Cheongju-si, Chungcheongbuk-do, Korea

Cheongju Factory) 136, Mochung-ro, Seowon-gu, Cheongju-si, Chungcheongbuk-do, Korea

Telephone : (82-43) 216-0433, 0434

Fax : (82-43) 216-0438

e-mail : info@meta-biomed.com

Manufacturer : METABIOMED CO., LTD.

1.4. Emergency telephone number

(82-43) 216-0433, 0434

2. Hazards identification

- Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Acute hazards to the aquatic environment, Category 1(Aquatic AcTox. 1)

Chronic hazards to the aquatic environment, Category 1(Aquatic ChrTox. 1)

- Label elements

Labelling according to Regulation (EC) No 1272/2008

* GHS label elements including precautionary statements

- Hazard Pictograms



- Signal word : Warning

- Product identifiers

- Hazard statement(s) : H410 Very toxic to aquatic life with long lasting effects.



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- Precautionary Statement(s) : P261 Avoid breathing vapours.
- Prevention P264 Wash hands thoroughly after handling.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/ face protection.
- Response : P302+P352 IF ON SKIN: Wash with plenty of water.
P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in apposition comfortable for breathing.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P312 Call a POISON CENTER/doctor/if you feel unwell.
P332+P313 If skin irritation occurs: Get medical advice/attention.
P337+P313 If eye irritation persists: Get medical advice/attention.
P362+P364 Take off contaminated clothing and wash it before reuse.
- Storage P403+P233 Store in a well-ventilated place. Keep container tightly closed.
- Disposal P501 Dispose of contents/container at a disposal facility in accordance with local regulations.

2.3. Other hazards (according to the NFPA Rating System)

- Health : 1
- Flammability : 1
- Reactivity : 0

3. Composition/information on ingredients

3.1. Substances

Not Applicable

3.2. Mixtures

Chemical Name	CAS No.	EC No.	Wt. %	Classification according to Directive 67/548/EEC	Classification according to Regulation(EC) No 1272/2008[CLP]
Zinc oxide	1314-13-2	215-222-5	40-50	R50/53	H302, H318, H410, P273, P280, P305+P351+P338, P501



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Rosin	8050-09-7		20-25		
Calcium Phosphate	7758-87-4		10-20		
Bismuth Subcarbonate	5982-10-4		10-20		

4. First aids measures

4.1. Description of first aid measures

- Eyes : Wash thoroughly with fresh, clean water for 15 minutes holding the eyelids open.
If there is any redness, pain or visual impairment, consult an ophthalmologist.
- Skin : Remove contaminated clothing and wash the skin thoroughly with soap and water or a recognised cleaner.
Watch out for any remaining product between skin and clothing, watches, shoes, etc. If the contaminated area is widespread and/or there is damage to the skin, a doctor must be consulted or the patient transferred to hospital.
- Inhalation : In the event of massive inhalation, remove the person exposed to fresh air. Keep warm and at rest. If the person is unconscious, place in recovery position. Notify a doctor in all events, to ascertain whether observation and supportive hospital care will be necessary.
If breathing is irregular or has stopped, effect mouth-to-mouth resuscitation and call a doctor.
- Ingestion : Do not give the patient anything orally.
In the event of swallowing, if the quantity is small (no more than one mouthful), rinse the mouth with water and consult a doctor.
Seek medical attention immediately, showing the label.

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

- Eyes : N/A
- Skin : N/A
- Inhalation : N/A
- Ingestion : N/A

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

- N/A



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5. Fire fighting measures

5.1. Extinguishing media

- Extinguishing media : In the event of a fire, use: water, carbon dioxide, dry chemical agents

5.2. Special hazards arising from the substance or mixture

Thermal decomposition can lead to release of irritating gases and vapors.

Do not breathe in smoke.

5.3. Advice for firefighters

Due to the toxicity of the gas emitted on thermal decomposition of the products, fire-fighting personnel are to be equipped with autonomous insulating breathing apparatus.

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Consult the safety measures listed under headings 7 and 8.

For non first aid worker

Avoid inhaling the vapors.

Avoid any contact with the skin and eyes.

If a large quantity has been spilt, evacuate all personnel and only allow intervention by trained operators equipped with safety apparatus.

For first aid worker

First aid workers will be equipped with suitable personal protective equipment (See section 8).

6.2. Environmental precautions

Prevent any material from entering drains or waterways.

6.3. Methods and material for containment and cleaning up

Clean preferably with a detergent, do not use solvents.

6.4. Reference to other sections

N/A

7. Handling and storage

7.1. Precautions for safe handling

Follow all prevention measures on the SDS/labels.

Always wash hands after handling.

Remove and wash contaminated clothing before re-using.

Fire prevention :

Handle in well-ventilated areas.



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Prevent access by unauthorised personnel.

Recommended equipment and procedures :

For personal protection, see section 8.

Observe precautions stated on label and also industrial safety regulations.

Avoid inhaling vapors.

Avoid inhaling vapors. Carry out any industrial operation which may give rise to this in a sealed apparatus.

Provide vapor extraction at the emission source and also general ventilation of the premises.

Also provide breathing apparatus for certain short tasks of an exceptional nature and for emergency interventions.

In all cases, recover emissions at source.

Avoid skin and eye contact with this mixture.

Prohibited equipment and procedures :

No smoking, eating or drinking in areas where the mixture is used.

7.2. Conditions for safe storage, including any incompatibilities

No data available

Storage

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

Packaging

Always keep in packaging made of an identical material to the original..

7.3. Specific end use(s)

No data available.

8. Exposure controls and personal protection

8.1. Control parameters

Occupational exposure limits :

- ACGIH TLV (American Conference of Governmental Industrial Hygienists, Threshold Limit Values, 2010) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
1314-13-2	5 mg/m3	-	-	-	-
1314-13-2	2 mg/m3	-	-	-	-

8.2. Exposure controls

Personal protection measures, such as personal protective equipment

Pictogram(s) indicating the obligation of wearing personal protective equipment (PPE) :



Use personal protective equipment that is clean and has been properly maintained.

Store personal protective equipment in a clean place, away from the work area.

Never eat, drink or smoke during use. Remove and wash contaminated clothing before re-using. Ensure that there is adequate ventilation, especially in confined areas.

- Eye / face protection : Avoid contact with eyes.
Use eye protectors designed to protect against liquid splashes
Before handling, wear safety goggles with protective sides accordance with standard EN166.
In the event of high danger, protect the face with a face shield.
Prescription glasses are not considered as protection.
Individuals wearing contact lenses should wear prescription glasses during work where they may be exposed to irritant vapours.
Provide eyewash stations in facilities where the product is handled constantly.
- Hand protection : Wear suitable protective gloves in the event of prolonged or repeated skin contact.
Use suitable protective gloves that are resistant to chemical agents in accordance with standard EN374.
Gloves must be selected according to the application and duration of use at the workstation.
Protective gloves need to be selected according to their suitability for the workstation in question : other chemical products that may be handled, necessary physical protections (cutting, pricking, heat protection), level of dexterity required.
Recommended properties :
 - Impervious gloves in accordance with standard EN374
- Body protection : Avoid skin contact.
Wear suitable protective clothing.
Suitable type of protective clothing :
In the event of substantial spatter, wear liquid-tight protective clothing against chemical risks (type 3) in accordance with EN14605 to prevent skin contact.
In the event of a risk of splashing, wear protective clothing against chemical



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risks (type 6) in accordance with EN13034 to prevent skin contact.

Work clothing worn by personnel shall be laundered regularly.

After contact with the product, all parts of the body that have been soiled must be washed.

- Respiratory protection : Avoid breathing vapours.

If the ventilation is insufficient, wear appropriate breathing apparatus.

When workers are confronted with concentrations that are above occupational exposure limits, they must wear a suitable, approved, respiratory protection device.

Anti-gas and vapour filter(s) (Combined filters) in accordance with standard EN14387 : - A1 (Brown)

9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

- Appearance	: Powder	- Vapor pressure	: N/A
- Odor	: Odorless:	- Vapor density	: N/A
- Color	: White	- Relative density	: > 1.0
- pH	: N/A	- Solubility(ies)	: Insoluble
- Melting/freezing point	: N/A	- Partition coefficient :	: N/A
- Initial boiling point and boiling range	: N/A	n-octanol/water	
- Flash point	: N/A	- Auto-ignition temperature	: N/A
- Evaporation rate	: N/A	- Decomposition temperature	
- Flammability(solid, gas)	: N/A	- Viscosity	: N/A
- Upper/lower flammability or explosive limits	: N/A	- Explosive properties	: N/A
		- Oxidising properties	: N/A

9.2. Other information

No data available.

10. Stability and reactivity

10.1. Reactivity

No data available.

10.2. Chemical stability

This mixture is stable under the recommended handling and storage conditions in section 7.

10.3. Possibility of hazardous reactions



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No data available.

10.4. Conditions to avoid

Incompatible materials.

10.5 Incompatible materials

Strong oxidizing agents. Magnesium. Chlorinated rubber.

10.6. Hazardous decomposition products

Zinc oxides

11. Toxicological information

11.1. Information on toxicological effects

Acute Toxicity: No data available.

Carcinogenicity: No data available.

Specific target organ toxicity(single/repeated exposure): No data available

Aspiration hazard: No data available

Information on likely routes of exposure: Dermal contact. Eye contact. Inhalation. Ingestion.

- Substances

No toxicological data available for the substances.

- Mixture

No toxicological data available for the mixture.

12. Ecological information

12.1. Toxicity

- Mixture

Ecotoxicity

Toxicity to fish LC50 – Oncorhynchus mykiss(rainbow trout) – 1.1mg/l – 96.0 h: 1314-13-2

Toxicity to daphnia and other aquatic invertebrates EC50 – Daphnia magna(Water flea) – 0.098mg/l – 48 h: 1314-13-2

12.2. Persistence and degradability

- Substances

No data available

12.3. Bioaccumulative potential

No data available.

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

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No data available.

12.6. Other adverse effects

1314-13-2: Very toxic to aquatic life. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

13. Disposal considerations

13.1. Waste treatment methods

Do not pour into drains or waterways.

Waste :

Waste management is carried out without endangering human health, without harming the environment and, in particular without risk to water, air, soil, plants or animals.

Recycle or dispose of waste in compliance with current legislation, preferably via a certified collector or company.

Do not contaminate the ground or water with waste, do not dispose of waste into the environment.

Soiled packaging :

Empty container completely. Keep label(s) on container.

Give to a certified disposal contractor.

14. Transport information

4.1. UN Number

IMDG, IATA UN3077

14.2. UN proper shipping name

IMDG : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(Zinc oxide)

IATA : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(Zinc oxide)

14.3. Transport hazard class(es)



14.4. Packing Group

III

14.5. Environmental hazards

Yes.

14.6. Special precautions for user

- ADR - road : N/A

- RID - rail : N/A



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- IMDG - sea : N/A

- IATA - air : N/A

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Transport in bulk : N/A

15. Regulatory information

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

RoHS : Please refer to Medical Devices Directive 93/42/EEC

15.2. Chemical safety assessment

Chemical safety assessment : See Section 11.

16. Other information

The information contained in the Safety data sheet is correct to the best of our knowledge at the date of issue. It is intended as a guide for the safe use, handling, disposal, storage and transportation and is not intended as warranty or as a specification. The information relates only to the product specified and may not be suitable for combinations with other materials or in processes other than those specifically described herein.

HISTORY

- **Date of creation** : 03-08-2015
- **Revision number and Revision date**
 - * Revision number : 1
 - * Date of last revision : 28-11-2016
- **Prepared by** : METABIOMED CO., LTD.