



Material Safety Data Sheet

-ZOB Seal(liquid)-

METABIOMED.CO.,LTD

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

- **Product name** : ZOB Seal(liquid)
- **Supplier** : METABIOMED.CO.,LTD
Head Office) 414-12 Mochung-dong, Cheongju City, Chungbuk, 361-140, Korea
2nd Factory) 1115-6 Namchon-ri, Oksan-myeon, Cheongwon-gun, Chungbuk, 363-911, Korea
Tel : (82-43) 216-0433, 0434
Fax : (82-43) 216-0438

2. Composition/information on ingredients

Chemical characterization: Eugenol, Olive Oil

Description : ZOB Seal for root canal sealing consisting of ZOB Seal powder and ZOB Seal liquid.

Information on hazardous ingredients

Chemical name	CAS No.	w/w %	EC Number	Symbol	R-Phrases
4-Allyl-2-Methoxyphenol(Eugenol)	97-53-0	80		Xn	R20/21/22

3. Hazards identification

- **Physical/chemical hazards** : N/A
- **Human health hazards** : Harmful if swallowed
- **Environmental hazards** : N/A

4. First aids measures

- **Inhalation** : If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, call a physician.
- **Ingestion** : Call a physician, give list of ingredients.
- **Skin contact** : In case of contact. Immediately wash skin with water and soap.
- **Eye contact** : Flush with large amounts of water. Seek medical attention immediately.

5. Fire fighting measures

Extinguishing media

- **Suitable** : CO₂, Foam, Dry Chemical
- **Not suitable** : N/A
- **Special fire fighting** : Use standard procedures.

Procedures



Material Safety Data Sheet

-ZOB Seal(liquid)-

METABIOMED.CO.,LTD

- Unusable fire/explosion hazards : None
- Hazardous thermal (de)composition products : Burning may produce :Carbon Monoxide, Carbon Dioxide
- Protection of fire fighters : N/A

6. Accidental release measures

- Personal precautions : Adopt precautions listed in following sections 7 and 8.
- Environmental precautions : None
- Methods for cleaning up : Sweep into a container for disposal. See section 13

7. Handling and storage

- Handling : Always wear gloves and eye protection. Keep container closed when not in use. Keep away from heat and flame.
- Storage : Keep out of reach of children. Protect from exposure to direct sun light. Keep container closed. Store in cool, dry place.

8. Exposure controls/personal protection

- Precautions for use : Wash hands before breaks and after work.
- Respiratory protection : Avoid breathing vapors.
- Skin and body : Wear suitable protective clothing.
- Hands : Wear suitable gloves.
- Eyes : Wear safety goggles.

9. Physical and chemical properties

- | | |
|--|-----------------------------------|
| - Physical state : Liquid | - Solubility in water : Insoluble |
| - Color : Amber | - pH : N/A |
| - Odor : Odor of eugenol
(Oil of cloves) | - Flash point : N/A |
| - Boiling point : N/E | - Autoignition temperature : N/A |
| - Melting point : N/A | - Lower explosion limit : N/A |
| - Vapor pressure : N/A | - Upper explosion limit : N/A |
| - Specific gravity(H ₂ O=1) : > 1.0 | - Viscosity : N/E |



Material Safety Data Sheet

-ZOB Seal(liquid)-

METABIOMED.CO.,LTD

10. Stability and reactivity

- Stability	: Stable
- Condition to avoid	: Excessive heat.
- Materials to avoid	: N/A
- Hazardous reactions	: N/A
- Hazardous decomposition products	: N/A

11. Toxicological information

- Acute toxicity	: N/A
- Primary effects to skin	: Repeated contact may cause allergic dermatitis.
- Primary effects to eyes	: May be irritating to eyes.
- Primary effects to respiratory system	: Prolonged exposure may cause drowsiness
- Sensitization	: N/A
- Additional toxicological info	: N/A

12. Ecological information

- General information	: There is no specific information on the product. Use according to good working practices, avoiding release of the product in to environment.
- Classification of water endangerment	: N/A

13. Disposal considerations

- Product	: Disposed of in accordance to the local regulations.
-----------	---

14. Transport information

- DOT shipping name	: Same as product name	- <u>Air transport ICAO-Ti and IATA-DGR class</u>	: N/A
- DOT hazard class	: Non-regulated		
- UN number	: N/A	- UN number	: N/A
- <u>Sea transport IMDG/GGV sea class</u>	: N/A		
- UN number	: N/A		
- EmS number	: N/A		
- MFGA number	: N/A		



Material Safety Data Sheet

-ZOB Seal(liquid)-

METABIOMED.CO.,LTD

15. Regulatory information

- Hazard designation	: Harmful						
- Hazard symbols	: Xn						
- R-phrases	: R20/21/22 : Harmful by inhalation, in contact with skin, if swallowed.						
- S-phrases	: S24/26/46 : Avoid contact with skin. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. If swallowed, seek medical advice immediately and show this container or label.						
- Other labeling	: Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Keep out of the reach of children.						
- SARA 313 toxic chemicals	<table border="1"><thead><tr><th><u>Chemical name</u></th><th><u>CAS-No.</u></th><th><u>Weight %</u></th></tr></thead><tbody><tr><td>None</td><td></td><td></td></tr></tbody></table>	<u>Chemical name</u>	<u>CAS-No.</u>	<u>Weight %</u>	None		
<u>Chemical name</u>	<u>CAS-No.</u>	<u>Weight %</u>					
None							
- Canadian regulations require the inclusion of the following statements under “Regulatory Information”; “This product has been classified in accordance with the hazard criteria of the controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.”							

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.

Full text of the R-phrases in section 2

R20/21/22 : Harmful by inhalation, in contact with skin, if swallowed.

HISTORY

- Date of printing : 6-11-2007
- Date previous issue : 6-11-2007
- Date of issue : 6-11-2007
- Prepared by : META BIOMED CO., LTD