



Material Safety Data Sheet

Rev.0
17 March, 2014

-ENDOSEAL-

MARUCHI.CO.,LTD

1. Product and company identification

- **Product name** : Endoseal
- **Supplier** : MARUCHI
2-208, Medical Industry Complex Bldg., 42-10, Taejanggongdan-gil, Wonju-si
Gangwon-do, South Korea, 220-962
Tel : +82-33-734-0330
Fax : +82-33-746-2804

2. Composition/information on ingredients

Name	CAS No.	%
Natural Pure Cement	-	33.2
Zirconium Dioxide	1314-23-4	66.5
Citric acid anhydrous	77-92-9	0.3

3. Hazards identification

Endoseal is a gray powder that poses little immediate hazard. A single short-term exposure to the dry powder is not likely to cause serious harm. However, exposure of sufficient duration (either single or multiple) to moist product can cause serious, potentially irreversible tissue (skin or eye) destruction in the form of chemical (caustic) burns, including third-degree burns. The same type of tissue destruction can occur if wet or moist areas of the body are exposed for sufficient duration to the dry product.

4. First aids measures

- **Inhalation** : Remove to fresh air. Seek medical help if coughing and other symptoms do not subside. ("Inhalation" of gross amounts of Endoseal requires immediate medical attention.)
- **Ingestion** : Do not induce vomiting. If conscious, have the victim drink plenty of water and call a physician immediately.
- **Skin contact** : Wash skin with cool water and pH-neutral soap or a mild detergent intended for use on skin. Seek medical treatment in all cases of prolonged exposure to wet material, freshly cured product, or prolonged wet skin exposure to the dry powder
- **Eye contact** : Immediately flush eyes thoroughly with water. Continue flushing eye for at least 15 minutes, including under lids, to remove all particles. Call physician immediately.

5. Fire fighting measures

- **Special fire-fighting procedures** : None.(Although product poses no fire-related hazards, a self-contained breathing apparatus is recommended to limit exposures to combustion products when fighting any fire.)
- **Hazardous combustion products** : None



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- Unusual fire and explosion hazards : None
- Extinguishing Media : None required: does not burn.

6. Accidental release measures

- Personal precautions : Avoid all contact with the eyes.
: Avoid contact with the skin.
: Avoid breathing in the dust.
: In the event of clouds of dust, wear a suitable dust mask.
- Environmental precautions : Clean up any accidental spreading of significant quantities onto the floor Without delay.
- Methods for cleaning up : Collect dry material using a scoop. Avoid actions that cause dust to become airborne. Avoid inhalation of dust and contact with skin. Wear appropriate personal protective equipment as described in Section 8.
Scrape up wet material and place in an appropriate container.
Allow the material to "dry" before disposal. Do not attempt to wash
Endoseal down drains.

7. Handling and storage

- Handling : Promptly remove dusty clothing or clothing which is wet with product and launder before reuse. Wash thoroughly after exposure to dust or wet product mixtures or fluids. Use local exhaust ventilation to minimize airborne dusts. Avoid contact with ammonia, ammonia nitrate and chlorine or chlorine containing items.
- Storage : Store in dry area. Normal temperatures and pressures do not affect the material.
Store away from food and drinks. Do not store near ammonia, ammonia nitrate and chlorine or chlorine containing items.

8. Exposure controls/personal protection

- Respiratory protection : Use local exhaust or general dilution ventilation to control dust levels below applicable exposure limits.
Minimize dispersal of dust into the air. if local or general ventilation is not adequate to control dust levels.
Below applicable exposure limits or when dust causes irritation or discomfort, use MSHA/NIOSH approved respirators, described in section 2.
- Skin : Wear protective clothing to prevent skin contact. promptly remove clothing dusty with dry ENDOSEAL or clothing dampened with moisture mixed with the product, and launder before reuse.
- Eyes



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: Wear safety glasses with the eyes. In extremely dusty environments, wear tight-fitting unvented or indirectly vented goggles to avoid eye irritation or injury. contact lenses should not be worn when handling with EndocemMTA

9. Physical and chemical properties

- Physical state	: Solid(Powder))	- Solubility in water	: Slightly soluble (0.1 to 1.0 %)
- Color	: gray	- pH (in water) (ASTM D 1293-95)	: 12 to 13
	L* 78.98 (±5)	- Flash point	: None
	a* 0.65 (±1)	- Auto ignition temperature	: Not combustible
	b* 5.45 (±2)	- Lower explosive limit	: None
	C* 5.49 (±2)	- Upper explosive limit	: None
	H* 83.25 (±5)	- Evaporation rate	: N/A
- Odor	: No distinct odor		
- Boiling point	: Not applicable [i.e.,		
- Melting point	>1000°C(1800°F)]		
- Vapor pressure	: N/A		
- Vapor density	: N/A		
	: N/A		

10. Stability and reactivity

- Stability	: Stable
- Condition to avoid	: Avoid unintentional contact with water to prevent premature setting
- Incompatibility	: Wet Endoseal is alkaline(caustic/basic). It is incompatible with acids, ammonia, ammonia nitrate, ammonium salts, aluminum metal and chlorine.
- Hazardous decomposition	: Addition of water to the powder results in hydration and produces (caustic) calcium hydroxide.
- Hazardous polymerization	: Hazardous polymerization will not occur.

11. Toxicological information

No toxicological testing of this special product has been done.



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12. Ecological information

No recognized unusual toxicity to plants or animals.

13. DISPOSAL CONSIDERATIONS

- **Product** : Dispose of waste material according to local, state and government regulations.
Dispose of packaging in an approved landfill or incinerator.

14. Transport information

- **shipping name** : Same as product name
- **Dangerous Goods class** : None
- **UN/NA number** : None
- **EMS number** : None
- **Packing Group** : None
- **Additional Shipping Information** : Endocem Zr is not hazardous under regulations.

15. Regulatory information

REGULATIONS

Zirconium Dioxide (CAS : 1314-23-4), Citric acid anhydrous(CAS: 77-92-9) is found on the following regulatory lists :

Australian Inventory of Chemical Substances (AICS)

DATE OF PREVIOUS MSDS : None

MSDS NUMBER : KFDA REGULATIONS Contact MARUCHI for more information.

16. Other information

Prepared by/date : Seungwon, Jang/17 March, 2014

Date of previous MSDS : None

MSDS NUMBER : None

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