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1. IDENTIFICATION OF PRODUCT AND COMPANY

Product trade name: MTA Repair HP

Use: Bioceramic endodontic reparative cement, with high plasticity, for endodontic complications.

Produced by:

ANGELUS INDÚSTRIA DE PRODUTOS ODONTOLÓGICOS LTDA - CNPJ 00.257.992/0001-37
RUA Waldir Landgraf 101 - Bairro Lindóia / ZIP 86031-218 LONDRINA - PARANA - BRASIL.

Emergency phone and email: +55 43 2101-3200 or sac@angelus.ind.br

2. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS Number	Percent %	Dangerous components
3CaO.SiO ₂ Tricalcium Silicate	12168-85-3	45-55	
2CaO.SiO ₂ Dicalcium Silicate	10034-77-2	10-15	
3CaO.Al ₂ O ₃ Tricalcium Aluminate	12042-78-3	5-12	
CaO Calcium Oxide	1305-78-8	1-5	OSHA PEL: 15 mg/m ³ ACGIH/TLV: 10 mg/m ³
CaWO ₄ Calcium tungstate	7790-75-2	20-30	OSHA PEL: N/E ACGIH/TLV: 5mg(W)/m ³

3. IDENTIFICATION OF RISKS

MTA Repair HP is a white powder that present little immediate risk. Short-term exposure will not cause serious damage. Even then, irreversible tissue damage (skin and eyes) may occur from prolonged exposure to large amounts of moist product. Similar damage can occur if the skin comes in contact long enough with large amounts of dry product.

4. FIRST AID MEASURES

- 4.1. **Contact with skin:** Wash with abundant water and soap.
- 4.2. **Contact with eyes:** Wash with abundant water. Seek doctor if symptoms persist.
- 4.3. **Ingestion:** Do not induce vomiting if the person is unconscious. If conscious, administer large quantities of water.
- 4.4. **Inhalation:** Remove person to fresh air. If you feel unwell, get medical attention. (Inhalation of large amounts of MTA Repair HP requires immediate medical attention).

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5. FIREFIGHTING MEASURES

- 5.1. **Extinguishers recommended:** Noncombustible.
- 5.2. **Extinguishers not recommended:** Noncombustible.
- 5.3. **Specific risks from the product combustion:** None.
- 5.4. **Protective equipment:** Not required.

6. ACCIDENTAL LEAKAGE MEASURES

Clean all the outpouring of dust to avoid raising dust, vest in appropriate containers. Avoid inhalation of dust and contact with the skin. Collect the moist product and store in appropriate containers. Allow the product to dry before disposing of it.

The hardened cement can be disposed of as inert waste.

7. HANDLING AND STORAGE

- 7.1. **Precautions in handling:** Handle with care. Avoid direct contact with the skin. Avoid generation of dust. Avoid contact with ammonia, ammonium nitrate, chlorine or chlorine-containing items.
- 7.2. **Storage conditions:** Store in a dry place. Standard temperature and pressure do not affect the product. Store away from foods and drinks. Do not store next to ammonia, ammonium nitrate, chlorine or chlorine-containing items.

8. EXPOSURE CONTROL / PROTECTION

- 8.1. **Respiratory protection:** Avoid actions that may lead to the formation of dust. Use proper mask for particulate material.
- 8.2. **Hand protection:** Use protective gloves.
- 8.3. **Eye protection:** Activities in which the powder or wet product may come into contact with your eyes, use safety glasses. Be careful when using contact lenses when working with MTA HP.
- 8.4. **Protection for the skin:** Avoid contact with a dry or damp. In cases of prolonged exposure with a dry (powder), use waterproof clothing and gloves to avoid skin broker. When required, use waterproof boots to moisture to eliminate exposure of toe and heel. In case of skin irritation, wash the affected area and, if necessary, seek medical attention.

9. PHYSICAL AND CHEMICAL PROPERTIES

- 9.1. **Appearance:** Solid (powder)
- 9.2. **Color:** White
- 9.3. **Odor:** Odorless
- 9.4. **pH (in water):** 10-12
- 9.5. **Melting Point:** Not applicable
- 9.6. **Boiling Point:** Not applicable
- 9.7. **Evaporation rate:** Not applicable
- 9.8. **Explosion limits:** Not applicable
- 9.9. **Vapor pressure:** Not applicable
- 9.10. **Relative Density:** 2,8-3,5 g/cm³
- 9.11. **Solubility in water:** Slightly soluble
- 9.12. **Auto-ignition temperature:** Non-flammable
- 9.13. **Decomposition temperature:** Not applicable

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10. STABILITY AND REACTIVITY

- 10.1. **Thermal decomposition:** Product stable in normal conditions.
- 10.2. **Conditions to be avoided:** Avoid intentional contact with the liquid or powder.
- 10.3. **Materials to be avoided:** The MTA Repair HP when mixed with liquid or water has high alkalinity. Avoid contact with ammonia, ammonium nitrate, chlorine or chlorine-containing items.
- 10.4. **Risk Reactions:** Not applicable
- 10.5. **Dangerous decomposition products:** Decomposition will not occur spontaneously. In contact with the liquid or water, will occur the product hydration and formation of calcium hydroxide (caustic).

11. TOXICOLOGICAL INFORMATION

There is no test data available for the product.

12. ECOLOGICAL INFORMATION

Not recognized toxicity to plants or animals.

13. CONSIDERATIONS ABOUT DISPOSAL

- 13.1. **Product disposal:** Dispose of the product according to the applicable local legislation after the characterization and classification of the waste according to regulations.
- 13.2. **Remains of the product:** Dispose of the product according to the applicable local legislation after the characterization and classification of the waste according to regulations.
- 13.3. **Packaging disposal:** Dispose of the product according to the applicable local legislation after the characterization and classification of the waste according to regulations.

14. TRANSPORTATION INFORMATION

This product does not have classification in transportation rules.

15. REGULATORY INFORMATION

This product is not classified as flammable.

16. OTHER INFORMATION

The information contained in this sheet are based on our knowledge on the date indicated above. This information refer only to the indicated product and of not constitute guarantee for a particular quality. The user is fully responsible to adopt the due precautions to protect property and people against any damages, which might derive from such handling and use. We recommend the user to carefully observe the destination and the form of use of the product, using according to the instructions.

In case of doubts, request technical guidelines: **+55 43 2101-3200 or sac@angelus.ind.br**

Date issued: 11/02/2016

1. IDENTIFICATION

Product Identifier	
Trade Name	Product Identifier Number
MTA REPAIR HP – 0.17 g	843
MTA REPAIR HP – 0.425 g	846
MTA REPAIR HP – 0.850 g	8469

Product Use: Bioceramic endodontic reparative cement, with high plasticity, for endodontic complications.

Restrictions on Use: For dental use only.

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2. HAZARDS IDENTIFICATION

GHS Classification

Hazard/Danger Classification:

Health Hazards

Hazard Class	Category	Signal word	Hazard Statement	Pictogram
Skin irritation	2	Warning	Causes skin irritation	
Eye irritation	2A	Warning	Causes serious eye irritation	
Respiratory irritation	3	Warning	May cause respiratory irritation	

Precautionary Statements

P261 – Avoid breathing dust.

P264 – Wash hands thoroughly after handling.

P280 – Wear protective gloves, protective clothing, eye protection and face protection.

P302+P352 – IF ON SKIN: Wash with plenty of water and soap.

P304+P340 – IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305+P351 – IF IN EYES: Rinse cautiously with water for several minutes.

P332+P313 – If skin irritation occurs: Get medical advice/attention.

P337+P313 – If eye irritation occurs: Get medical advice /attention.

Physical Hazards

This product reacts in contact with moisture and water producing a strong alkaline material.

Environment hazard

Not applicable.

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3. COMPOSITION / INFORMATION ON INGREDIENTS

CAS N°/ EC N°	Reach registration N°	% (weight)	Name	Classification according to Regulation (EC) No 1278/2008 (CLP)
12168-85-3	NA	45-55	3CaO.SiO ₂ Tricalcium Silicate	Skin Irrit. 2 H315
10034-77-2	NA	10-15	2CaO.SiO ₂ Dicalcium Silicate	
12042-78-3	NA	5-12	3CaO.Al ₂ O ₃ Tricalcium Aluminate	
1305-78-8	NA	1-5	CaO Calcium Oxide	Eye irrit. 2 H319
7790-75-2	NA	20-30	CaWO ₄ Calcium tungstate	

4. FIRST AID MEASURES

Routes of exposure	Most important Symptoms/Effects, Acute and Delayed	First Aid Treatment
Skin	Skin irritation	Wash with plenty of cool water and pH-neutral soap. 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	Severe eye irritation	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. If eye irritation occurs: Get medical advice /attention.
Inhalation	Irritation to the moist mucus membranes of the nose, throat and upper respiratory system	Remove person to fresh air and keep comfortable for breathing. Inhalation of large amounts of MTA REPAIR HP requires immediate medical attention.
Ingestion	Irritation to the digestive tract	Do not induce vomiting. If person is conscious, use water to rinse out the mouth and have the person drink plenty of water.

5. FIRE-FIGHTING MEASURES

Conditions of Flammability: Non Combustible.

Suitable Extinguishing Media: There is no restriction on the type of extinguisher which may be used. Use extinguishing media suitable for surrounding area.

Unsuitable Extinguishing Media: There is no restriction on the type of extinguisher.

Specific Hazards Arising From the Product: None.

Advice for Fire-fighters: Firefighters should always wear full protective gear to fight any fire. Prevent spillage from entering drains or water courses.

6. ACCIDENTAL LEAKAGE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures: Wear appropriate personal protective equipment to prevent contamination of skin, eyes and personal clothing as described in Section 8. Collect dry material using a scoop. Avoid actions that cause dust to become airborne. Avoid inhalation of dust and contact with skin.

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Environmental Precautions: Prevent spillage from entering drains or water courses.





Methods and Material for Containment and Cleaning Up: Collect dry material using a scoop. Dispose of waste material according to local, state and federal regulations. Collect the moist product and store in appropriate containers.

7. HANDLING AND STORAGE

Precautions for Safe Handling: Handle with care. Avoid direct contact with the skin. Avoid generation of dust. Avoid contact with ammonia, ammonium nitrate, chlorine or chlorine-containing items.

Conditions for Safety Storage: Store in a dry place. Standard temperature and pressure do not affect the product. Store away from foods and drinks. Do not store next to ammonia, ammonium nitrate, chlorine or chlorine-containing items.

8. EXPOSURE CONTROL / PROTECTION

Control Parameters	The product does not contain any relevant quantities of materials with critical values that have to be monitored at the work place.	
Appropriate Engineering Controls	Well ventilation.	
Individual Protections Measures, Such as Personal Protective Equipment (PPE)	Eye/face Protection 	Safety glasses. Activities, in which the powder or wet product may come into contact with eyes, use safety glasses. Be careful when using contact lenses when working with MTA REPAIR HP.
	Skin Protection  	Protective work clothing. Avoid contact with a dry or damp. In cases of prolonged exposure with a dry (powder), use waterproof clothing and gloves to avoid skin broker. When required, use waterproof boots to moisture to eliminate exposure of toe and heel. In case of skin irritation, wash the affected area and, if necessary, seek medical attention.
	Respiratory Protection 	Surgical face mask Avoid actions that may lead to the formation of dust. Use proper mask for particulate material.

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9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	State: Solid (powder)	Upper/Lower Flammability or Explosive Limits	NA
	Color: White		
Odour	No distinct odour	Vapour Pressure	NA
Odor Threshold	NA	Vapour Density	NA
pH	10-12	Relative Density	NA
Melting point/Freezing Point	NA	Solubility (with water)	Slightly soluble
Initial Boiling Point and Boiling Range	NA	Partition Coefficient n-octanol/water	NA
Flash Point	NA	Auto-ignition Temperature	NA
Evaporation Rate	NA	Decomposition Temperature	NA
Flammability	NA	Viscosity Temperature	NA

10. STABILITY AND REACTIVITY

Reactivity: Contact with the liquid or water will result the hydration of the product and formation of calcium hydroxide (caustic).

Chemical Stability: Product stable in normal conditions.

Possibility of Hazardous Reactions: Not Available

Conditions to Avoid: Avoid contact with water to prevent premature setting.

Incompatible Materials: Acids, ammonia, nitrate, ammonium salts, aluminum metal and chlorine.

Hazardous Decomposition Products: Decomposition will not occur spontaneously.

11. TOXICOLOGICAL INFORMATION

Toxicity, Environmental Fate, Physical/Chemical Data, or Other Data Supporting Environmental Hazard Statements: No recognized unusual toxicity to plants or animals.

Emergency Overview: MTA REPAIR HP is a 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 amount and 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.

Likely Routes of Exposure	Signs and Symptoms	Single, Repeated, or Lifetime Exposure	Severity (Mild, Moderate, Severe)	Acute and Chronic Health Effects	Target Organs	LD50 Testing Data (as applicable)	LC50 Testing Data (as applicable)
Eye	Irritation or Inflammation	Single	Moderate	Blindness in severe cases.	Eye	NA	NA
Skin	Mild Irritation, skin dryness	Single	Mild	Severe skin damage.	Skin	NA	NA
Inhalation	Irritation to moist mucous membranes of the nose, throat and upper respiratory system.	Repeated	Mild	Lung injury can occur.	Mucous membranes of the nose, throat and upper respiratory system.	NA	NA
Ingestion	Internal discomfort or irritation to the digestive tract.	Single	Mild	Ill effects are possible if large amounts are consumed.	Digestive system	NA	NA

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Medical Conditions Aggravated by Exposure: Pre-existing upper respiratory and lung diseases.

Carcinogenicity: Ingredients not listed as carcinogens.

12. ECOLOGICAL INFORMATION

Toxicity: Not available

Persistence and Degradability: Not available

Bioaccumulative Potential: Not available

Mobility in Soil: Not available

Other Adverse effects: Not available

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods: Avoid creation or breathing dust during disposal. Avoid contact with skin and eyes. Refer to Section 8 for personal protection measures. Dispose of waste and contaminated product in a suitable sealed container. Dispose of product according to local and federal regulations. Do not dispose of product down drains or from entering sewage systems.

Physical/Chemical Properties Affecting Disposal Options: No known precautions.

Special Precautions for Incineration or Landfill: NA

14. TRANSPORTATION INFORMATION

UN Number: NA

UN Proper Shipping Name: MTA REPAIR HP

Transport Hazard Class(es): NA

Environmental Hazards: NA

Precautions for User: NA

Transport in Bulk (According to Annex II of MARPOL 73/78⁹ and IBC Code): NA

15. REGULATORY INFORMATION

Status under USDOL-OSHA Hazard Communication Rule, 29 CFR 1910, 1200: Status under USDOL-OSHA Hazard Communication Rule, 29 CFR 1910, 1200- The major components of MTA REPAIR HP (calcium silicate compounds are considered to be "hazardous chemicals" under this regulation; thus, the product should be part of hazard communication program(s).

Hazard Category under SARA (Title III), Section 311 and 312: The major components of MTA REPAIR HP (calcium silicate compounds) qualify as "hazardous substances" with delayed health effects.

Status under REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labeling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006; This device is classified as an irritant: - Skin irritation (Category 2) - Eye irritation (Category 2)

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16. OTHER INFORMATION**Date of Preparation:** 11-02-2016

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