

# SAFETY DATA SHEET

Product Name: Grey MTA Plus® POWDER

## 1. Product and Company Identification

Product Name: Grey MTA Plus® Powder	SDS Code Number: 102
Trade Name & Synonyms: Grey MTA Plus® Powder	Last Revision: 1506
Chemical Name: no name assigned to mixture	Manufactured by: Avalon Biomed Inc.
CAS. Number: None assigned	Address: 7282 55th Ave. E, #227, Bradenton, FL 34203 USA Website: www.avalonbiomed.com
Grades or Minor Variant Identities: none	Info Telephone Number: 1 941 896 9948
Product Use (for Canada): Powder for mixing with MTA Plus gel or liquid for dental use.	Fax Number: 1-941-896-9950 e-mail: info@avalonbiomed.com

## 2. Hazard Identification

### Emergency Overview

Dust may irritate throat and respiratory system and cause coughing. Frequent inhalation of dust over a long period of time increase the risk of developing lung diseases. Dust or splashes from the mixture may cause permanent eye damage. Dust has an irritating effect on moist skin. Prolonged contact may cause burns.

Routes of Exposure	Signs and Symptoms	Single, Repeated, or Lifetime Exposure	Severity (Mild, Moderate, Severe)	Acute and Chronic Health Effect(s) of hazardous component	Target Organ(s)
Eye	Can cause eye immediate or delayed irritation of cornea.	Single	Mild		-
Skin	Exposure may cause drying of the skin with mild irritations. Discomfort or pain cannot be relied upon to alert a person to a hazardous skin exposure.	Single	Mild	Acute irritation to skin and mucous membranes. Can aggravate other skin conditions.	-
Inhalation	Exposure may cause irritation to the moist mucous membranes of the nose, throat, and upper respiratory system	Single	Mild	Frequent inhalation of large quantities, over a long period of time increases the risk of lung diseases.	Lung
Ingestion	Internal discomfort or ill effects are possible if large quantities are swallowed.	Single	Mild	Acute irritation	-
Other	-	-	-	-	-

Medical Conditions Aggravated by Exposure: Pre-existing upper respiratory and lung diseases may be aggravated by inhalation.

Carcinogenicity (IARC, NTP): None known

Potential Environmental Effects: Powder with moisture hardens into a solid mass that is not biodegradable.

## 3. Composition of Ingredients

Hazardous Components	CAS. Number	Lowest Exposure Limits	%
3CaO•SiO <sub>2</sub> --Tricalcium Silicate	12168-85-3	4 mg/m <sup>3</sup>	<50
Bi <sub>2</sub> O <sub>3</sub> – Bismuth oxide	1304-76-3	No TLV assigned.	<30
2CaO•SiO <sub>2</sub> --Dicalcium Silicate	10034-77-2	4 mg/m <sup>3</sup>	<20
CaSO <sub>4</sub> - calcium sulfate	7778-18-9	5 mg/m <sup>3</sup>	<5
SiO <sub>2</sub> -- Silica	14464-46-1	0.05 mg/m <sup>3</sup>	<0.5

## 4. First Aid Measures

Routes of Exposure	First Aid Instructions	Immediate Medical Attention	Effects	
			Acute	Delayed
Eye	Immediately flush eyes with plenty of water for 15 minutes, while holding eyelids apart. Remove contact lenses. Do not use eye ointments.	Get medical attention immediately, even if no		
Skin	Immediately flush skin with plenty of cool soapy water. Remove contaminated clothing and wash contact areas thoroughly.		-	
Inhalation	Move individual away from exposure into fresh air. If not breathing, give artificial respiration. If breathing is difficult, administer oxygen. Keep patient warm.	Get medical attention.	-	
Ingestion	If ingestion occurs, flush mouth with water, and drink water or milk. Do not induce vomiting. If vomiting occurs, keep head low.	Get medical attention.	-	
Other	Seek medical advice after large-scale (>25 gm) exposure.	-	-	

Note to Physicians (Treatment, Testing, and Monitoring): Treat symptomatically.

## 5. Fire and Explosive Data

Flashpoint & Method: Non-combustible	Flammable (Explosive) Limits in Air LEL/UEL: not applicable	Autoignition Temperature: Not applicable	Other: none
Flame Propagation or Burning Rate (for solids): not applicable	Properties Contributing to Fire Intensity: none	Flammability Classification: 0	
Extinguishing Media: Water spray, foam, carbon dioxide, or dry chemical.		Extinguishing Media to Avoid: None	

Protection and Procedures for Firefighters: Usual. Avoid inhalation of smoke; use a respirator and protective suit.

Unusual Fire and Explosion Hazards: Irritating fumes may be released by thermal decomposition. Fumes of silicon dioxide may be evolved from material in a fire.

# SAFETY DATA SHEET

Product Name: Grey MTA Plus<sup>®</sup> POWDER

## 6. Accidental Release Measures

Containment Techniques: Discard in trash.

Spill/Leak Clean-Up Procedures and Equipment Wipe up spills with moist rags or vacuum immediately to prevent dust of material from being disperse, and discard in trash. Avoid skin contact and inhalation. Dispose of container and unused contents in accordance with federal, state, and local requirements.

Evacuation Procedures, Special Instructions, Reporting Requirements: All N/E

## 7. Handling and Storage

Handling Practices and Warnings: Powder is caustic. Keep out of eyes, lungs, or contact with mucosal tissues. After incidental contact, wash and rinse with water. Wear suitable gloves and protective glasses during use. Grey MTA Plus<sup>™</sup> powder must be kept well sealed and free of contamination by pyrogens. Protect the powder from humidity. Be careful not to contaminate the powder with a contaminated instrument.

Trained personnel use this product exclusively for dental purposes.

Storage Practices and Warnings: Store at temperatures at room temperature (25°C/77°F), not refrigerated. Keep bottle tightly closed; material is hydrophilic. Inadequate storage conditions will shorten the shelf life.

## 8. Exposure Control/Personal Protection

Ventilation: Use in a well-ventilated area.

Other Engineering Controls: None

Routes of Entry: Personal Protective Equipment (PPE) for Normal Use:

PPE for Emergencies:

Eye/Face Avoid contact with eyes.

Safety glasses or face shield

Skin Wear latex or nitrile gloves and avoid skin contact.

Gloves and Face shield

Inhalation Avoid dust inhalation.

Dust mask or respirator

General Hygiene Considerations and Work Practices: Wear gloves as per universal precautions in dentistry. Wash your hands after use. No eating, drinking, or smoking while handling this product. Wash clothing with spills of material on clothing.

Protective Measures During Repair and Maintenance of Contaminated Equipment: Use liquid to remove dust. Use vinegar to dissolve set material.-

Other Protective Measures and Equipment: N/E-

## 9. Physical and Chemical Characteristics

Appearance: Fine, yellowish powder

Odor: None

Normal Physical State:

Liquid  Gas  Solid \_\_\_\_\_(Other)

Boiling Point >1800°C

Melting Point >700°C

Freezing Point >800°C

Specific Gravity or Density (H<sub>2</sub>O=1): ~3.7

Solubility in Water: < 1%

pH: ~12 mixed with water

Vapor Pressure (mm Hg @ 20°C): ~0

Vapor Density (AIR= 1): N/A

Evaporation Rate (Butyl Acetate = 1): N/A

Other: none

## 10. Stability and Reactivity Data

Incompatibility (Materials to Avoid): Keep dry when stored to avoid reaction with water and setting.

Hazardous Products Produced During Decomposition: None

Hazardous Polymerization?  May Occur  MayNotOccur

Conditions to Avoid: Moisture will degrade the powder.

Stability?  Stable  Unstable

## 11. Toxicological Information

Toxicity Data, Epidemiology Studies, Carcinoggenicity, Neurological Effects, Genetic Effects, Reproductive Effects, or Structural Activity Data:

Toxicity is secondary to effect of caustic powder on moist tissues.

## 12. Ecological Information.

Toxicity, Environmental Fate, Physical /Chemical Data or Other Data Supporting Environmental Hazard Statements: Not biodegradable, Non Hazardous.

## 13. Disposal Considerations

Regulations: Dispose of container and unused contents in accordance with federal, state, and local requirements.

Properties (Physical/Chemical) Affecting Disposal: Do not spread dust. When mixed with water, a solid, non- biodegradable mass will form.

## 14. Transport Information

Regulated for shipping?  Yes  No

Proper Shipping Name: Grey MTA Plus<sup>™</sup> Powder

Packing Group DOT class: NR

Do changes in quantity, packaging, or shipment method change product classification?

Hazard Class: Non-hazardous

Identification Number:

Yes  No

None

Other: none

## 15. Regulatory Information

Federal Regulations Hazard code: Xn (irritant) / Components are considered to be hazardous material under the Hazardous Products Act as defined by the Controlled Products Regulations (Class D2A, E – Corrosive Material) and subject to the requirements of WHMIS.

Risk Phrases: R37/38 – Irritating to respiratory system & skin, R41 – Risk of serious damage to eyes

Safety Phrases: S22 – Do not breath dust, S24 – Avoid contact with skin, S25 – Avoid contact with eyes,

S26 – In case of eye contact, rinse immediately with plenty of water and seek medical advice

S36 – Wear suitable protective clothing, S45 – In case of accident, or if you feel unwell, seek medical attention immediately

TSCA Listed

## 16. Other Information

This information is based on our present knowledge; however, this shall not constitute a guarantee for a specific product features. No toxicity data are available for this specific formulation. This health hazard assessment is based on information that is available for its components.

N/A= not applicable. N/D= not determined. N/E= not established

# SAFETY DATA SHEET

Product Name: MTA Plus® GEL

## 1. Product and Company Identification

Product Name: MTA Plus® GEL	SDS Code Number: 101
Trade Name & Synonyms: MTA Plus® GEL	Last Revision: 1506
Chemical Name: None assigned	Manufactured by: Avalon Biomed Inc.
CAS. Number: None assigned	Address: 7282 55th Ave. E, #227, Bradenton, FL 34203 USA Website: www.avalonbiomed.com
Grades or Minor Variant Identities: None	Information Telephone Number: 1 941 896 9948
Product Use (for Canada): Water-based liquid for dental use mixed with NeoMTA® or Grey MTA Plus® powder for dental use.	Fax Number: 1 941 896-9950 e-mail: info@avalonbiomed.com

## 2. Hazard Identification

Emergency Overview: slightly caustic water-based gel solution

Routes of Exposure	Signs and Symptoms	Single, Repeated, or Lifetime Exposure	Severity (Mild, Moderate, Severe)	Acute and Chronic Health Effect(s)	Target Organ(s)
Eye	May irritate eyes.	Single	Moderate		-
Skin	May irritate skin.	Single	Mild		-
Inhalation	Dust is unlikely to form	Single	Mild		Lung
Ingestion	May irritate mucosal tissues.	Single	Mild		-

Medical Conditions Aggravated by Exposure: none known

Carcinogenicity (IARC, NTP): none known

Potential Environmental Effects: miscible with water with no known effects

## 3. Composition of Ingredients

Chemical name: None assigned	CAS number: N/A
Common Name & Synonyms: MTA Plus® GEL	Hazardous Components: None
Impurities & Stabilizing additives: None	
Exposure Limits: None	%

## 4. First Aid Measures

Routes of Exposure	First Aid Instructions	Immediate Medical Attention	Effects	
			Acute	Delayed
Eye	Immediately flush eyes with plenty of water for several minutes, while holding eyelids apart. Remove contact lenses. Do not use eye ointments.	Get medical attention immediately, even if no symptoms develop.		
Skin	Immediately flush skin with plenty of cool soapy water.	Get medical attention.		
Inhalation	Supply fresh air. If not breathing, give artificial respiration. If breathing is difficult, administer oxygen. Keep patient warm.	Get medical attention.		
Ingestion	If ingestion occurs, flush mouth with water, and seek medical attention.	Get medical attention.		
Other	Seek medical advice after large-scale exposure.	-		

Note to Physicians (Treatment, Testing, and Monitoring): Treat symptomatically.

## 5. Fire and Explosion Data

Flashpoint & Method: Not applicable to gel	Flammable (Explosive) Limits in Air LEL/UEL: not applicable	Autoignition Temperature: Not applicable	Other: None
Flame Propagation or Burning Rate (for solids): Not known	Properties Contributing to Fire Intensity: none	Flammability Classification: 0	
Extinguishing Media: Water spray, foam, carbon dioxide, or dry chemical.		Extinguishing Media to Avoid: None	
Protection and Procedures for Firefighters: Usual. Avoid inhalation of smoke; use a respirator and protective suit.			
Unusual Fire and Explosion Hazards: Fumes of silicon dioxide, carbon dioxide, and carbon monoxide may be evolved from dried material in a fire.			

## 6. Accidental Release Measures

Containment Techniques: Discard in trash.	
Spill/Leak Clean-Up Procedures and Equipment: Wipe up with rags immediately to prevent material from being dispersed, and discard in trash. Dispose of container and unused contents in accordance with federal, state, and local requirements.	
Evacuation Procedures: N/E	Reporting Requirements: N/E

## 7. Handling and Storage

Handling Practices and Warnings: Gel is slightly caustic. Wear suitable gloves and protective glasses during use. Keep out of eyes or contact with mucosal tissues. After incidental contact, wash and rinse with water. MTA Plus® gel must be kept well sealed, and free of contamination by pyrogens. Trained personnel use this product exclusively for dental purposes.
Storage Practices and Warnings: Store at room temperature (25°C/77°F). Keep bottle tightly closed. Inappropriate storage will shorten the shelf life.

# SAFETY DATA SHEET

Product Name: MTA Plus<sup>®</sup> GEL

## 8. Exposure Control/Personal Protection

Ventilation: Use in a well-ventilated area.		Other Engineering Controls: None
Routes of Entry:	Personal Protective Equipment (PPE) for Normal Use:	PPE for Emergencies:
Eye/Face	Wear safety glasses.	Safety glasses or face shield
Skin	Wear latex or nitrile gloves and avoid skin contact.	Gloves and Face shield
Inhalation	Avoid inhalation	Dust mask or respirator
General Hygiene Considerations and Work Practices: Wear gloves as per universal precautions in dentistry. Wash your hands after use. No eating, drinking, or smoking while handling this product. Wash clothing with spill.		
Protective Measures During Repair and Maintenance of Contaminated Equipment: Use gloves		
Other Protective Measures and Equipment: N/E		OSHA PELs: None
<b>9. Physical and Chemical Characteristics</b>		
Appearance: Slightly cloudy liquid		Odor: None
Normal Physical State: <input checked="" type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> Solid <input type="checkbox"/> ____ (Other)		Boiling Point   ~100°C Melting Point   0°C Freezing Point   0°C
Specific Gravity or Density (H <sub>2</sub> O=1): ~1.1	Solubility in Water: Soluble	pH: 7-8
Vapor Pressure (mm Hg @ 20°C): N/D	Vapor Density (AIR= 1): N/D	Evaporation Rate (Butyl Acetate = 1): N/D
Other: Including flammability or explosive limits / Odor / Odor threshold / Flashpoint / any other characteristic as per OSHA brief # 3514: None		

## 10. Stability and Reactivity Data

Incompatibility (Materials to Avoid): Do not mix with material other than NeoMTA Plus <sup>®</sup> powder	
Hazardous Products Produced During Decomposition: Decomposition products of the minor components of gel include silicon dioxide, carbon dioxide, and carbon monoxide.	
Hazardous Polymerization? <input type="checkbox"/> May Occur <input checked="" type="checkbox"/> May Not Occur	Conditions to Avoid: Heat
Stability? <input checked="" type="checkbox"/> Stable <input type="checkbox"/> Unstable	Reactivity Considerations: None

## 11. Toxicological Information

Toxicity Data, Epidemiology Studies, Carcinogenicity, Neurological Effects, Genetic Effects, Reproductive Effects, or Structure Activity Data Estimated from contents of components. Oral: LD50 >155 gm/kg (guinea pig); LDLo > 250 g/kg (rat); Exhalative LCLo/ 4 hr: 109 g/m <sup>3</sup> / 4 hr (rat); Eye irritation mild: 1.25 gm /24 hr (rabbit)	
Immediate, delayed or chronic effects from long and / or short term exposure: None known	
Description of exposure symptoms: None known	
Potential Carcinogen Indication (NTP, IARC or by OSHA): None	

## 12. Ecological Information

Toxicity, Environmental Fate, Physical/Chemical Data, or Other Data Supporting Environmental Hazard Statements: Do not discard in water system. Discard in trash.
---

## 13. Disposal Considerations

Regulations: Dispose of container and unused contents in accordance with federal, state, and local requirements.
Properties (Physical/Chemical) Affecting Disposal: None known

## 14. Transport Information

Regulated for shipping? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Proper Shipping Name: MTA Plus <sup>®</sup> LIQUID	Packing Group: DOT class: NR
Do changes in quantity, packaging, or shipment method change product classification? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Hazard Class: Non-hazardous	Identification Number: None Other: none

## 15. Regulatory Information

Federal Regulations: Hazard code: Xn (irritant)
Safety phrases: S22   Harmful if swallowed; S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36/37/39 Wear suitable protective clothing, gloves, and eye protection. S45 In case of accident, or if you feel unwell, seek medical advice immediately. <u>TSCA listed</u>

## 16. Other Information

This information is based on our present knowledge; however, this shall not constitute a guarantee for a specific product features. No toxicity data are available for this specific formulation. This health hazard assessment is based on information that is available for its components.
N/A= not applicable. N/D= not determined. N/E= not established.