

# SAFETY DATA SHEET

Product Name: Avalon Biomed Grey MTA Plus® POWDER

## 1. Product and Company Identification

Product Name: Avalon Biomed Grey MTA Plus® Powder	SDS Code Number: SDS4
Trade Name & Synonyms: Grey MTA Plus® Powder	
Chemical Name: no name assigned to mixture	Manufactured by: NuSmile Ltd
CAS. Number: None assigned	Address: 3315 W 12 <sup>th</sup> Street, Houston, TX 77008 Website: <a href="http://www.nusmile.com">www.nusmile.com</a>
Grades or Minor Variant Identities: none	Telephone Number USA 713-861-0033 INTL 1-800-346-5133
Product Use (for Canada): Powder for mixing with Avalon Biomed MTA Plus gel for dental use.	e-mail: <a href="mailto:regulatory@nusmile.com">regulatory@nusmile.com</a>

## 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	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.			

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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.		
<b>6. Accidental Release Measures</b>		
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		
<b>7. Handling and Storage</b>		
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™ powder must be kept well sealed and free of contamination by pyrogens. Protect the powder from humidity. Do not 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.		
<b>8. Exposure Control/Personal Protection</b>		
Ventilation: Use in a well-ventilated area.		Other Engineering Controls: None
<b>Routes of Entry:</b>	<b>Personal Protective Equipment (PPE) for Normal Use:</b>	<b>PPE for Emergencies:</b>
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-		
<b>9. Physical and Chemical Characteristics</b>		
Appearance: Fine, Grey powder		Odor: None
Normal Physical State: <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input checked="" type="checkbox"/> Solid    _____(Other)		Boiling Point >1800°C Melting Point >700°C Freezing Point >800°C
Specific Gravity or Density (H2O=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		
<b>10. Stability and Reactivity Data</b>		
Incompatibility (Materials to Avoid): Keep dry when stored to avoid reaction with water and setting.		
Hazardous Products Produced During Decomposition: None		
Hazardous Polymerization? <input type="checkbox"/> May Occur <input checked="" type="checkbox"/> May Not Occur	Conditions to Avoid: Moisture will degrade the powder.	
Stability? <input checked="" type="checkbox"/> Stable <input type="checkbox"/> Unstable	-	
<b>11. Toxicological Information</b>		
Toxicity Data, Epidemiology Studies, Carcinogenicity, Neurological Effects, Genetic Effects, Reproductive Effects, or Structural Activity Data: Toxicity is secondary to effect of caustic powder on moist tissues.		
<b>12. Ecological Information.</b>		
Toxicity, Environmental Fate, Physical /Chemical Data or Other Data Supporting Environmental Hazard Statements: Not biodegradable, Non Hazardous.		
<b>13. Disposal Considerations</b>		
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.		
<b>14. Transport Information</b>		
Regulated for shipping? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Proper Shipping Name: Grey MTA Plus™ Powder	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		
<b>15. Regulatory Information</b>		
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		
<b>16. Other Information</b>		
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		