

Safety Data Sheet

MBEC Assay® Device

Hydroxyapatite Coated Pegs

CAS: 9003-53-6, 12167-74-7

1. IDENTIFICATION

Product Identifier/Name(s):

MBEC Assay® Device with Hydroxyapatite Coated Pegs (Biofilm Inoculator With Trough Base or 96 Well Base).

Other Means of Identification (Product Family/Synonyms/Molecular Formula):

Polystyrene (C₈H₈)_n; silica (SiO₂); calcium hydroxyapatite 40 mesh powder coating, calcium phosphate tribasic, Hap, hydroxylapatite, tribasic calcium phosphate, calcium hydroxyphosphate, (Ca₅(PO₄)₃; Ca₅(PO₄)₃(OH); [Ca₅(PO₄)₃(OH)]_x; Ca₁₀(PO₄)₆(OH)₂).

Recommended Uses:

Laboratory device.

Restrictions on Use:

For research or laboratory use only.

Supplier Identifier:

Innovotech, Inc.
Suite L131, 2011 94 St.
Edmonton, AB, Canada, T6N 1H1
Telephone: 1-780-448-0585, Fax: 1-780-424-0941
Email: info@innovotech.ca,
Website: www.innovotech.ca

Emergency Phone Number:

1-888-670-5445 (North America, English)
1-780-448-0585 (Worldwide, English)

2. HAZARD IDENTIFICATION

Hazard Classification (Class, Category):

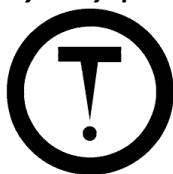
Health Hazards:

Polystyrene/silica: Eye Irritation: 1 – Intense or continued, but not necessarily chronic, exposure could cause injury. **Hydroxyapatite:** Skin/Eye/Respiratory Irritation: 2 – Causes skin irritation. Causes serious eye irritation. May cause respiratory Irritation.

Physical Hazards: None.

Label Elements (Symbol Images/Names, Symbol Words, Hazard Statements, Precautionary Statements):

Hydroxyapatite:



Toxic material causing other toxic effects. Signal word: Warning.

Precautionary Statements:

Polystyrene/silica: All ingredients are bound and potential for hazardous exposure as shipped is minimal. However, some vapors may be released upon heating from polystyrene/silica, and the end-user must take the necessary precautions (mechanical ventilation, respiratory protection) to

protect employees from exposure. **Hydroxyapatite:** Causes skin irritation. May cause respiratory irritation. Avoid breathing dust/fumes/gas/mist/vapors/spray. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing. If inhaled: Remove person to fresh air and keep comfortable for breathing. Take off contaminated clothing. Call a poison center or doctor if you feel unwell. Store locked up in a well-ventilated place. Keep container tightly closed. Dispose of contents/container in accordance with local/regional/national/international regulations.

Other Hazards:

Not applicable.

NFPA Ratings:

Health: **1**; Flammability: **0**; Reactivity: **1**; Other: **N/A**.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name:

Polystyrene, hydroxyapatite coating.

Common Name(s) and/or Synonyms:

For hydroxyapatite: calcium hydroxyapatite 40 mesh powder coating, calcium phosphate tribasic, Hap, hydroxylapatite, tribasic calcium phosphate, calcium hydroxyphosphate.

Chemical Abstract Service (CAS) Registry Number:

9003-53-6, 12167-74-7.

Unique Identifiers:

$C_8H_8)_n$, $[Ca_5(PO_4)_3(OH)]_x$.

Concentration of Chemical:

95-99% polystyrene base; 100% hydroxyapatite coating.

Chemical Names of Impurities, Stabilizing Solvents, and/or Additives:

Silica, amorphous.

Common Names of Impurities, Stabilizing Solvents, and/or Additives:

N/A.

CAS Registry Numbers of Impurities, Stabilizing Solvents, and/or Additives:

7631-86-9.

Unique Identifiers of Impurities, Stabilizing Solvents, and/or Additives:

SiO₂.

Concentrations of Impurities, Stabilizing Solvents, and/or Additives:

1-5% of base.

4. FIRST-AID MEASURES

Inhalation:

Polystyrene/Silica: Move to fresh air in case of accidental inhalation of fumes from overheating or combustion.

When symptoms persist, or in all cases of doubt, seek medical advice. **Hydroxyapatite:** Supply fresh air. If required, provide artificial respiration. Keep patient warm. See immediate medical assistance.

Skin Contact:

Polystyrene/Silica: Wash any residue off with soap and plenty of water. If skin irritation persists, seek medical attention. **Hydroxyapatite:** Immediately wash with water and soap and rinse thoroughly. Seek immediate medical advice.

Eye Contact:

Polystyrene/Silica: If any particles contact the eye, rinse immediately with plenty of water for 15 minutes, including rinsing under the eyelids. If eye irritation persists, seek medical attention. **Hydroxyapatite:** Rinse opened eye for several minutes under running water. Then consult a doctor.

Ingestion:

Polystyrene/Silica: Do not induce vomiting without medical advice. When symptoms persist, or in all cases of doubt, seek medical advice. **Hydroxyapatite:** Seek medical treatment.

Most Important Symptoms and Effects (Acute or Delayed):

Polystyrene/Silica: Resin particles can be mechanically irritating upon inhalation or contact with the eye, and harmful if swallowed. **Hydroxyapatite:** Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation.

Situations Where Immediate Medical Attention and/or Special Treatment Are Necessary:

Polystyrene/Silica: Whenever symptoms are prolonged or severe. **Hydroxyapatite:** Inhalation, skin contact, eye contact, ingestion.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media:

Carbon dioxide blanket, water spray, dry chemical powder, alcohol-resistant foam.

Unsuitable Extinguishing Media:

None identified.

Specific Hazards Arising from Hazardous Combustion Products:

Hazardous decomposition products formed under fire conditions: toxic fumes, calcium oxide, phosphorus oxides.

Special Procedures, Protective Equipment, and Precautions for Fire-Fighters:

Full face self-contained breathing apparatus used in positive pressure mode should be worn to prevent inhalation of airborne contaminants formed during firefighting. Wear fully protective impervious suit.

Fire Hazards Associated with Material:

None.

Explosion Hazards Associated with Material:

None.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions:

Wear appropriate personal protection during cleanup, such as impervious gloves, boots, and coveralls. Avoid dust formation. Avoid breathing vapors, mists, or gas. Avoid breathing dust. Keep unprotected persons away.

Protective Equipment:

Use appropriate exhaust ventilation.

Emergency Procedures:

The product/residue from the product should not be released into the environment. The product/residue from the product should not be allowed to enter drains, water courses, or the soil.

Methods and Materials for Containment and Cleaning Up:

Clean up product/residue from the product without creating dust. Sweep up and shovel. Package all material in suitable closed containers for disposal. Refer to Section 13 of this SDS for proper disposal methods.

Hydroxyapatite: Protective Action Criteria (PAC) – PAC-1: 120 mg/m³; PAC-2: 1300 mg/m³; PAC-3: 7900 mg/m³.

7. HANDLING AND STORAGE

Precautions for Safe Handling:

Take measures to prevent the buildup of electrostatic charge. Heat only in areas with appropriate exhaust ventilation. Ensure good ventilation at the workplace.

Conditions for Safe Storage (Temperature, Conditions, Chemicals to Avoid):

Store product dry and in tightly sealed containers to avoid moisture and contamination. Keep in a dry cool well-ventilated place. Store away from oxidizing agents.

Incompatible Materials:

Strong acids and oxidizing agents.

Avoid Contact With (Body Parts):

Eyes, skin.

Should Skin Be Washed After Working With the Chemical?

Yes.

Any Special Working Environments or Personal Protective Equipment to be Used:

Safety glasses with side-shields, protective gloves, long sleeved clothing, safety shoes.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control Parameters:

Airborne exposure limits: Silica, amorphous – 20 mppcf Permissible Exposure Limit (PEL). Exposure type: total dust.
List: OSHA, Z3.

Engineering Controls:

Heat only in areas with appropriate exhaust ventilation. Provide appropriate exhaust ventilation, e.g. mechanical exhaust or laboratory fume hood. Use a properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 ft/min.

Individual Protection Measures:

Eyes:

Safety glasses with side shields. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).

Skin:

Protective impervious gloves*, long sleeved protective work clothing, safety shoes. Handle in accordance with good industrial hygiene and safety practice. Follow typical precautionary measures for handling chemicals. Keep away from foodstuffs, beverages, and feed. Wash hands before breaks and at the end of workday. Removal all soiled and contaminated clothing immediately. Avoid contact with the eyes and skin.

*Gloves must be inspected prior to use. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Respiratory:

Polystyrene/Silica: No personal respiratory protective equipment normally required.

Hydroxyapatite: Typically, respiratory protection is not required. Where risk assessment shows air-purifying respirators are appropriate (e.g. high concentrations of hydroxyapatite are present) use a respirator with type N95 (US) or PE (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or EN 14387 (EU).

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (Physical State, Color, etc.):

Polystyrene/silica: Solid, transparent. **Hydroxyapatite:** White powder.

Odor:

Very faint.

Odor Threshold:

Unknown.

pH:

Not applicable.

Melting Point/Freezing Point:

Unknown.

Initial Boiling Point/Boiling Range:

Not applicable (polystyrene/silica decomposes on heating)/unknown (hydroxyapatite).

Flash Point:

Not applicable/unknown.

Evaporation Rate:

Not applicable.

Flammability (Solid or Gas):

Unknown.

Lower Flammable/Explosive Limit:

Not applicable/unknown.

Upper Flammable/Explosive Limit:

Not applicable/unknown.

Vapor Pressure:

Not applicable.

Vapor Density:

Not applicable.

Relative Density:

Unknown.

Solubility:

Insoluble/unknown.

Partition Coefficient – *n*-octanol/water:

Unknown.

Auto-Ignition Temperature:

Not applicable/unknown.

Decomposition Temperature:

Unknown.

Viscosity:

Not applicable.

10. STABILITY AND REACTIVITY

Reactivity:

Polystyrene/silica: Stable under recommended storage conditions. **Hydroxyapatite:** Unknown.

Chemical Stability:

Stable under recommended storage conditions.

Possibility of Hazardous Reactions:

May occur if contacted with incompatibles.

Conditions to Avoid:

Polystyrene/silica: Keep away from oxidizing agents, strong acids, and open flame. To avoid thermal decomposition, do not overheat. **Hydroxyapatite:** Decomposition will not occur if used and stored according to specifications. Reacts with strong oxidizing agents.

Incompatible Materials:

Incompatible with strong acids and oxidizing agents.

Hazardous Decomposition Products:

Carbon dioxide (CO₂), carbon monoxide (CO), oxides of nitrogen, calcium oxide, phosphorus oxides (e.g., P₂O₅), other hazardous materials, and smoke are all possible.

Hazardous Polymerization:

Will not occur.

11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure:

Ingestion:

Yes (residue/dust).

Dermal:

Yes (residue/dust).

Inhalation:

Yes (residue/dust).

Eye Contact:

Yes (residue/dust).

Symptoms Related to the Physical, Chemical, and Toxicological Characteristics:

Mechanically irritating upon inhalation or eye contact. Harmful if swallowed.

Delayed Effects from Short-Term Exposure:

Ingestion:

Unknown.

Dermal:

Unknown.

Inhalation:

Unknown.

Eye Contact:

Unknown.

Delayed Effects from Long-Term Exposure:

Ingestion:

Unknown.

Dermal:

Unknown.

Inhalation:

Unknown.

Eye Contact:

Unknown.

Immediate Effects from Short-Term Exposure:

Ingestion:

Harmful if swallowed.

Dermal:

Polystyrene/silica: No hazard from routine handling. **Hydroxyapatite:** Causes skin irritation.

Inhalation:

Polystyrene/silica: Mechanically irritating. **Hydroxyapatite:** May cause respiratory irritation.

Eye Contact:

Polystyrene/silica: Mechanically irritating. **Hydroxyapatite:** Causes serious eye irritation.

Immediate Effects from Long-Term Exposure:

Ingestion:

Unknown.

Dermal:

Unknown.

Inhalation:

Unknown.

Eye Contact:

Unknown.

Chronic Effects from Short-Term Exposure:

Ingestion:

Unknown.

Dermal:

Unknown.

Inhalation:

Unknown.

Eye Contact:

Unknown.

Chronic Effects from Long-Term Exposure:

Ingestion:

Unknown.

Dermal:

Unknown.

Inhalation:

Unknown.

Eye Contact:

Unknown.

Irritancy:

Polystyrene/silica: Mechanically irritating if inhaled or contacted to the eye. **Hydroxyapatite:** Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation.

Sensitization:

Polystyrene/silica: Experience shows no unusual dermatitis hazard from routine handling. **Hydroxyapatite:** No sensitizing effects known.

Carcinogenicity:

Polystyrene/silica: Unknown. **Hydroxyapatite:** No classification data on carcinogenic properties of this material are available from the EPA, IARC, NTP, OSHA, or ACGIH.

Reproductive Toxicity:

Polystyrene/silica: Unknown. **Hydroxyapatite:** No effects known.

Teratogenicity:

Unknown.

Mutagenicity:

Polystyrene/silica: Unknown. **Hydroxyapatite:** No effects known.

12. ECOLOGICAL INFORMATION

Ecotoxicity:

Polystyrene/silica: Chemicals are not readily available as they are bound within the matrix of the polymer. **Hydroxyapatite:** Unknown. Do not allow undiluted product or large quantities to reach ground water, water course, or sewage system. Avoid transfer into the environment.

Persistence and Degradability:

Polystyrene/silica: Not readily biodegradable. **Hydroxyapatite:** Unknown.

Bioaccumulative Potential:

Polystyrene/silica: Chemicals are not readily available as they are bound within the matrix of the polymer.

Hydroxyapatite: Unknown.

Mobility in Soil:

Polystyrene/silica: Chemicals are not readily available as they are bound within the matrix of the polymer.

Hydroxyapatite: Unknown.

Other Adverse Effects:

Unknown.

13. DISPOSAL CONSIDERATIONS

Safe Handling for Disposal:

Handle following all safety precautions and use personal protective equipment as listed in this SDS.

Methods of Disposal (Including Contaminated Packaging):

Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Dispose of contaminated packaging as per unused product. The generator of waste material has the responsibility for proper waste classification, transportation, and disposal in accordance with applicable federal, state/provincial, and local regulations.

Methods for Neutralization of Material:

Neutralization not necessary prior to disposal.

Disposal should be in accordance with municipal, provincial/state, and federal laws and regulations.

14. TRANSPORTATION INFORMATION

UN Number:

As of 2018 not classified as a hazardous good.

UN Proper Shipping Name:

As of 2018 not classified as a hazardous good.

Transport Hazard Class(es):

As of 2018 not classified as a hazardous good.

Packing Group:

As of 2018 not classified as a hazardous good.

Environmental Hazards:

As of 2018 not classified as a hazardous good.

Transport in Bulk:

As of 2018 not classified as a hazardous good. Fragile, ship according to Fragile requirements.

Special Precautions:

As of 2018 not classified as a hazardous good. Fragile, ship according to Fragile requirements.

USA Department of Transportation (DOT) Number:

Not regulated for transportation/not applicable.

Domestic Transportation Information:

Not regulated for transportation/not applicable.

International Transportation Information:

Not regulated for transportation/not applicable.

15. REGULATORY INFORMATION

Safety Regulations:

Polystyrene/silica: US – OSHA Status: Classified as hazardous based on components.

Health Regulations:

Polystyrene/silica: US – TSCA Status: All components of this product are listed on the TSCA inventory or are exempt. **Hydroxyapatite:** US – TSCA Status: This product is not listed in the TSCA Chemical Substance Inventory.

Environmental Regulations:

Polystyrene/silica: US EPA CERCLA Hazardous Substances (40 CFR 302): Not applicable.

California Proposition: This product does not contain a substance listed by California Prop 65.

WHMIS Class:

Polystyrene/silica: Canadian Regulations – WHMIS Classification: Not controlled. **Polystyrene/silica and Hydroxyapatite:** DSL: Listed.

Regulatory Agencies Which Have Classified This Product as Hazardous:

National Inventories: Australia AICS – Listed; China IECS – Listed; Europe EINECS – Not Determined; Japan ENCS – Not Determined; Korea KECI – Listed; Philippines PICCS – Listed.

This SDS was created according to Canadian legislation.

16. OTHER INFORMATION

Date of the Last Review of the SDS:

19/11/21

Date of the Latest Revision of the SDS:

19/11/21

Date of the Next Review of the SDS:

19/11/23

Date of Issue of the SDS:

19/11/21

The current version of the SDS replaces all previous versions.

Innovotech, Inc. provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose. Innovotech, Inc. makes no representations or warranties, either express or implied, including, without limitation, any warranties of merchantability or fitness for a particular purpose with respect to the information set forth herein or the product to which the information refers. Accordingly, Innovotech, Inc. will not be responsible for damages resulting from use of or reliance upon this information.

Precautions About the Compound – Know This:

Residue/dust is mechanically irritating if inhaled or contacted to the eye. Causes skin irritation. Toxic vapors may be released upon heating.