

SAFETY DATA SHEET

1. IDENTIFICATION

Product Name: MITO ACRE™ (Polyhedral Silsesquioxane and Amylose Starch blend 60:40)			
Name: EP0409 POSS	Name: Starch		
Synonyms: Oxirane, 2-([3- (trimethoxysilyl) propoxy] methyl)- hydrolyzed	Synonyms: Starch from maize, Corn Starch		
CAS Number: 68611-45-0	CAS Number: 9005-25-8		

CAS Number: 9005-25-8

Product Use: Toughening agent, Reinforcing agent

Manufacturer: MITO Material Solutions, Inc.

8902 Vincennes Circle, Suite B Indianapolis, IN, 46268 US

Telephone: 855-344-6486

Email: info@mitomaterials.com

Emergency Telephone:

US and Canada: 800-424-9300 24 Hours/day; 7Days/week



2. Hazards Identification

Potential Acute Health Effects:		
Eyes Contact	May cause eye irritation	
Skin Contact	May cause Skin irritation	
Respiratory Tract/ Inhalation	May cause irritation	
Ingestion	Slightly hazardous in case of ingestion	
Potential Chronic Health Effects:		
Carcinogenic effects	Not available	
Mutagenic effects	Not available	
Teratogenic effects	Not available	
Developmental toxicity	Not available; the substance may be	
	toxic to blood, kidneys, lungs, upper	
	respiratory tract, eyes and central	
	nervous system	

3. Composition and chemical ingredients

Chemical Identity	CAS #	Concentration
Oxirane, 2-([3-(trimethoxysilyl)propoxy]methyl)- hydrolyzed	68611-45-0	<60%
Starch from corp	9005-25-8	>40%
	109-99-9	<1%
Tetrahydrofuran		

4. First aid measures

Eye Contact: Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek medical attention.



Skin Contact: In case of skin contact, gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. If irritation persists, seek medical attention.

Inhalation: Allow the victim to rest in a well-ventilated area. Seek immediate medical attention.

Ingestion: Do not induce vomiting. Seek immediate medical attention.

Serious Ingestion: Not available.

5. Fire-fighting measures

Fire Hazards: May catch fire if exposed to open flames and sparks of heat.

Suitable extinguishing media: Use water spray, carbon dioxide, dry chemical powder or appropriate foam.

Special protective equipment and precaution for fire fighters: Fire fighters exposed to vapors should wear a self-contained breathing apparatus and full protective clothing to prevent contact with skin and eyes.

Other Combustion Hazards: In the event of combustion or thermal decomposition, this material may release carbon monoxide (CO) or carbon dioxide (CO₂) or oxides of Silicon and Nitrogen. At temperatures over 300 °C, this material may react with potassium, sodium, rubidium, or cesium to create intercalation compounds that may ignite and may react explosively with water.

6. Accidental release measures

Spill: Spilled or released material should be collected mechanically and disposed of in suitable containers.



Personal precautions: Exercise appropriate precautions to minimize direct contact with skin or eyes.

Environmental precautions: Do not let product enter drains.

7. Handling and storage

Precautions: Do not ingest. Do not touch with bare hand. Do not breathe gas/fumes/vapor/spray. Wear suitable protective clothing. Avoid accumulations or concentrations of dust.

Storage: Store at room temperature. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame).

8. Exposure controls/personal protection

Respiratory protection: Be sure to use an approved/certified respirator or equivalent.

Hand protection: Always wear protective gloves. Do not touch with hand. Wash thoroughly after handling.

Eye protection: Always wear chemical safety goggles or a face shield

Skin and body protection: Protect against skin contact by wearing suitable clothing.

Engineering Controls: Provide adequate workplace ventilation

9. Physical and chemical Properties

Appearance: Light yellow colored powder.



Odor: Not applicable

Melting point: Not applicable

Flash point: Not applicable.

Boiling point: Not applicable.

Vapor density: not applicable.

Bulk density: 0.8 – 1.0 g/cm³.

Solvent Solubility: Hot water

Liquid Dispersibility: Dispersible in polar organic solvents like tetrahydrofuran, ethanol, isopropanol, and acetone. It is also dispersible in resins like epoxy, vinyl ester and polyester.

Evaporation Rate: Not applicable.

Ignition temperature: Not applicable

10. Stability and reactivity

Chemical stability: This product is stable at room temperature.

Conditions/materials to avoid: Exposure to strong bases, strong oxidizing agents, fluorine or chlorine trifluoride

Hazardous decomposition products: Carbon dioxide, Carbon monoxide, Silicon Oxides and Oxides of nitrogen

11. Toxicological information

Acute toxicity: No data available

Skin corrosion/irritation: Causes irritation



Serious eye damage/eye irritation: Causes irritation and severe damage if exposed long time

Respiratory or skin sensitization: Causes irritation

Germ cell mutagenicity: No data available

Carcinogenicity: No data available

Reproductive toxicity: No data available

Specific target organ toxicity – single exposure: No data available

Specific target organ toxicity – repeated exposure: No data available

Aspiration hazard: No data available

Potential health effects: Skin: Causes skin irritation. Eyes: Contact with eyes may cause severe irritation with possible eye burns. Inhalation: May cause upper respiratory tract (nose, throat) irritation. High concentrations may affect behavior/central nervous system (central nervous system depression/effects characterized by headache, general anesthetic, dizziness, somnolence, muscle weakness, and loss of consciousness), respiration (respiratory stimulation, dyspnea), and gastrointestinal tract (nausea, vomiting). Ingestion: May cause gastrointestinal irritation with nausea, vomiting, and diarrhea, abdominal pain. May also affect the liver and behavior/central nervous system with symptoms similar to inhalation.

12. Ecological information

Toxicity: No data available

Persistence and degradability: No data available

Bio-accumulative potential: No data available

Mobility in soil: No data available

Other adverse effects: No data available

Special Remarks on the Products of Biodegradation: Not available.



13. Disposal considerations

Waste Disposal: Waste must be disposed of in accordance with federal, state and local environmental control regulations.

14. Transport information

Classification for road and rail transport (ADR/RID): Not dangerous

Classification for sea transport (IMO-IMDG): Not dangerous

Classification for air transport (IATA/ICAO): Not dangerous

15. Regulatory information

One minor ingredient of this product liquid POSS (<40% by weight) (68611-45-0), is listed in **Toxic Substances Control Act (TSCA)**. A registration number is not available for this substance in **REACH (EU)** as the substance or its uses are exempted from registration.

Another component of this product, starch, from corn (>60% by weight) (CAS no. 9005-25-8) is not listed as a hazardous material under US Federal regulations. It is not listed under the Clean Air Act, the Clean Water Act, SARA (section 302, section 311/312, or section 313), HAPS, or IARC.

Starch (CAS no. 9005-25-8) is listed on: US: TCSA.

SARA 302 Components - This material does not contain any components with a section 302 EHS TPQ.

SARA 313 Components - This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards - No SARA Hazards

Massachusetts Right To Know Components - starch CAS-No. 9005-25-8 Revision Date 1989-08-11 No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components - starch CAS-No. 9005-25-8 Revision Date 1989-08-11

New Jersey Right To Know Components starch CAS-No. 9005-25-8 Revision Date 1989-08-11

16. Other information

Prepared By: Research and Development Department, MITO Material Solutions, Inc.

Date prepared: 10.05.2022

This information is based on our research, available scientific literature and most reliable other sources as well as information provided by our vendors. This information is intended only as a guide. The user of this product must read and decide what safety measures are necessary to safely use this product and determine environmental regulatory compliance obligations under any applicable laws.