

## 1. Product Identification

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Product name	Untreated Fumed Silica Thickener
SDS Number	905M5
Synonyms	Silicon Dioxide, Synthetic Amorphous Silica, Pyrogenic (Fumed) Amorphous Silica
Product type	Filler for the plastics industry
Recommended use of the chemical and restrictions on use	Filler, rheological control, thickening agent.
Restrictions	None known.
<b>Manufacturer/Supplier information</b>	
Company name	SYSTEM THREE RESINS, INC.
Address	8517 Commerce Place Dr NE Lacey, WA 98516 United States
Telephone	1-253-333-8118
Website	www.systemthree.com
Email	support@systemthree.com
Emergency Contact	CHEMTEL (U.S. and CANADA) 1-800-704-9215 CHEMTEL (Outside the U.S.) – Call Collect accepted +1-360-256-7365

## 2. Hazard(s) Identification

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Classification of substance or mixture/Signal Word	This chemical is not considered hazardous by the United States 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).
<u>GHS Label Elements</u> Hazard Pictograms	None.
Hazard Statements/Classification of substance or mixture	None.
Precautionary statements	
<u>Precautionary Statements</u>	None.
Prevention	
Response	None.
Storage	Not applicable.
Disposal	Not applicable.
Hazards not otherwise classified (HNOC)	None known.

## 3. Composition/Information On Ingredients

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Chemical Name	CAS Number	Content (%)
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Synthetic Amorphous, Pyrogenic Silica	112945-52-5	>99.9%
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\*Regulatory information is found under the general silica: CAS RN 7631-86-9, EINECS RN 231-545-4

## 4. First-Aid Measures

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<b>Skin contact</b>	Wash thoroughly with soap and cold water. Seek medical attention if symptoms develop.
<b>Eye contact</b>	Immediately flush eyes with plenty of running water for at least 15 minutes. If irritation persists get medical attention.
<b>Ingestion</b>	Do not induce vomiting. If conscious, give several glasses of water. Never give anything by mouth to an unconscious person.
<b>Inhalation</b>	If cough, shortness of breath or other breathing problems occur, move to fresh air. Seek medical attention if symptoms persist. If necessary, restore normal breathing through standard first aid measures.

### Indication of immediate medical attention and special treatment needed, if necessary

<b>Notes to physician</b>	None known.
<b>Specific treatments</b>	Treat symptomatically.

## 5. Fire-Fighting Measures

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<b>Suitable extinguishing media</b>	Silica is non-combustible, therefore no extinguishing media needs to be identified.
<b>Unsuitable extinguishing media</b>	None.
<b>Specific hazards arising from the chemical</b>	None.
<b>Hazardous decomposition products</b>	None.
<b>Special protective actions for fire-fighters</b>	None.
<b>Special protective equipment for fire-fighters</b>	Wear suitable protective equipment. In the event of fire, wear self-contained breathing apparatus.
<b>Further information</b>	Not applicable.

## 6. Accidental Release Measures

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<b>Personal precautions</b>	Avoid dust formation. Ensure adequate ventilation. Use personal protective equipment. See Section 8.
<b>Emergency procedures</b>	None known.
<b>Methods and materials for containment/cleanup</b>	Prevent further leakage or spillage if safe to do so. Clean up promptly by vacuum. Use of a vacuum with high efficiency particulate air (HEPA) filtration is recommended. Do not create a dust cloud by using a brush or compressed air. Pick up and transfer to properly labelled containers. See Section 13.
<b>Environmental precautions</b>	Contain spilled product on land, if possible. Local authorities should be advised if significant spillages cannot be contained.

## 7. Handling and Storage

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<b>Precautions for safe handling</b>	Avoid contact with skin and eyes. Avoid dust formation. Do not breathe dust. Provide appropriate exhaust ventilation at machinery and at places where dust can be generated. Do not create a dust cloud by using a brush or compressed air.
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Take precautionary measures against static discharges. All metal parts of the mixing and processing equipment must be earthed/grounded. Ensure all equipment is electrically earthed/grounded before beginning transfer operations. Fine dust is capable of penetrating electrical equipment and may cause electrical shorts.

**Precautions/Recommendations for safe/proper storage**

Keep containers tightly closed in a dry and well-ventilated place. Do not store together with volatile chemicals as they may be absorbed onto product. Store at ambient conditions. Keep in properly labeled containers.

## 8. Exposure Controls/Personal Protection

**Occupational Exposure Limits**

If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

Components	CAS No.	Agency	Limit Type	Additional Comments
Amorphous Silica, The regulatory exposure limits are found under the general silica, CAS RN 7631-86-9:	7631-86-9	OSHA	TWA: 6mg/Cubic Meter	
Dust, or Particulates Not Otherwise Specified	-	OSHA – PEL	15 mg/m <sup>3</sup> , TWA, Total Dust 5 mg/m <sup>3</sup> , TWA, Respirable	
		ACGIH – PNOS	10 mg/ m <sup>3</sup> , TWA Inhalable 3 mg/m <sup>3</sup> , TWA, Respirable	

**Appropriate engineering controls**

Ensure adequate ventilation to maintain exposures below occupational limits. Provide appropriate local exhaust ventilation at machinery and at places where dust can be generated.

**Environmental exposure controls**

In accordance with all local legislation and permit requirements as applicable for dusts.

**Individual protection measures/Personal protective equipment**

**Eye/face protection**

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended: Safety glasses with side shields or goggles.

**Hand protection**

Use gloves when handling this product to reduce skin contact as appropriate. Use protective barrier cream before handling the product. Wash hands and other exposed skin with mild soap and water.

**Skin protection**

Use body protection appropriate for the task (e.g. lab coat, coveralls).

**Respiratory protection**

Approved respirator may be necessary if local exhaust ventilation is not adequate.

**Special instructions for protection and hygiene**

Not available.

## 9. Physical and Chemical Properties

Chemical family

Silica

<b>Appearance</b>	Powder
<b>Physical State</b>	Solid
<b>Form</b>	Solid
<b>Color</b>	White
<b>Odor</b>	None
<b>Density (Specific Gravity)</b>	2.2 g/cm <sup>3</sup> @ 20°C
<b>Viscosity</b>	Not Applicable
<b>pH</b>	3.6-4.5
<b>Melting point/freezing point</b>	1700°C
<b>Initial boiling point and boiling range</b>	2230°C
<b>Flash point</b>	Not combustible
<b>Evaporation rate</b>	Not Applicable
<b>Flammability (solid, gas)</b>	Not flammable. Product resists ignition and does not promote flame spread.
<b>Upper/lower flammability limit (by volume)</b>	Not Applicable
<b>Material VOC</b>	<.04%
<b>Vapor density</b>	Not Applicable
<b>Bulk density</b>	30 – 150 kg/m <sup>3</sup>
<b>Solubility in water</b>	Slightly soluble
<b>Partition coefficient: n-octanol/water</b>	Not Applicable
<b>Auto-ignition temperature</b>	Not Applicable
<b>Decomposition temperature</b>	Not Applicable

## 10. Stability and Reactivity

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<b>Reactivity</b>	Not reactive. Substance is an inert inorganic solid.
<b>Chemical Stability</b>	Stable under conditions of normal use and storage.
<b>Possibility of hazardous reactions</b>	None under normal processing.
<b>Conditions to avoid</b>	None known.
<b>Incompatible materials</b>	None known.
<b>Hazardous decomposition products</b>	None, except in fire. See section 5 for combustion products statement.
<b>Other hazards</b>	This material is an inorganic dust and will not create nor support conditions that would result in a dust explosion or fire. Take precautionary measures against static discharges. Avoid dust formation. All metal parts of the mixing and processing equipment must be earthed/grounded. Ensure all equipment is electrically earthed/grounded before beginning transfer operations.

## 11. Toxicological Information

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### Acute Health Hazard

<b>Oral LD50:</b>	LD50/oral/rat = > 5000 mg/kg. No deaths occurred and no signs of toxicity were seen during the observation periods after single oral administration of silica(OECD 401).
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<b>Inhalation LC50:</b>	Due to the product's physical characteristics, no suitable testing procedure is available
<b>Dermal LD50:</b>	LD50/dermal/rabbit = > 2000 mg/kg. Very slight transient erythema in one animal. No signs of systemic or organ toxicity (OECD 402).
<b><u>Irritation/Corrosion</u></b>	Primary irritation index = 0/8 @ 24 hr. Not classified as an irritant (OECD 404). Draize score 1.0/110 @ 24 hr. Not classified as an irritant in rabbit studies (OECD 405). High dust concentrations may cause mechanical irritation.
<b><u>Sensitization</u></b>	No experimental animal data are available. No cases of sensitization in humans have been reported
<b><u>Mutagenicity</u></b>	Not mutagenic in Ames test. Negative in the unscheduled DNA synthesis assay. Negative in the chromosome aberration test in Chinese hamster ovary (CHO) cells.
<b><u>Carcinogenicity</u></b>	No evidence of carcinogenicity was observed in multiple animal species following repeated oral or inhalation exposure to amorphous silica. Similarly, epidemiology studies show no evidence of carcinogenicity in workers who manufacture amorphous silica.
<b><u>Reproductive Toxicity</u></b>	No effects on reproductive organs or fetal development have been reported in animal toxicity studies.
<b><u>Teratogenicity</u></b>	Data not available.
<b><u>Specific target organ toxicity (single exposure)</u></b>	Based on available data, specific target organ toxicity is not expected after single oral, single inhalation, or single dermal exposure.
<b><u>Specific target organ toxicity (repeated exposure)</u></b>	Repeated dose toxicity: oral (rat), 2 weeks to 6 months, no significant treatment-related adverse effects at doses of up to 8% silica in the diet. Repeated dose toxicity: inhalation (rat), 13 weeks, Lowest Observed Effect Level (LOEL) = 1.3 mg/m <sup>3</sup> based on mild reversible effects in the lungs. Repeated dose toxicity: inhalation (rat), 90 days, LOEL = 1 mg/m <sup>3</sup> based on reversible effects in the lungs and effects in the nasal cavity. Based on available data, a STOT-RE classification is not warranted.
<b><u>Aspiration hazard</u></b>	Based on industrial experience and available data, no aspiration hazard is expected.
<b><u>Potential acute health effects</u></b>	
<b>Eye Contact</b>	No data available.
<b>Inhalation</b>	No data available.
<b>Skin Contact</b>	No data available.
<b>Ingestion</b>	No data available.
<b><u>Symptoms related to the physical, chemical and toxicological characteristics</u></b>	
<b>Eye Contact</b>	No data available.
<b>Inhalation</b>	No data available.
<b>Skin Contact</b>	No data available.
<b>Ingestion</b>	No data available.
<b><u>Delayed and immediate effects and also chronic effects from short and long term exposure</u></b>	No data available.
<b><u>Potential chronic health effects</u></b>	
<b>General</b>	No data available.
<b>Carcinogenicity</b>	No data available.

<b>Mutagenicity</b>	No data available.
<b>Teratogenicity</b>	No data available.
<b>Developmental effects</b>	No data available.
<b>Fertility effects</b>	No data available.

**Numerical measures of toxicity**

<b><u>Acute toxicity estimates (ATEmix)</u></b>	No data available.
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**12. Ecological Information**

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<b><u>Ecotoxicity</u></b>	Fish (Brachydanio rerio) LC50 (96 h): > 10,000 mg/l; (Method: OECD 203) No acute toxicity to Daphnia with EL and EL50 ranging from >1000 to 10,000 mg/L (OECD 202)
<b><u>Persistence and degradability</u></b>	No data available.
<b><u>Bioaccumulative Potential</u></b>	Not expected due to physiochemical properties of the substance.
<b><u>Mobility in Soil</u></b>	Not expected to migrate.
<b>Soil/water partition coefficient (KOC)</b>	No data available.
<b>Other adverse effects</b>	No data available.

**13. Disposal Considerations**

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<b>Waste from residues/ unused products</b>	Material, if discarded, is not expected to be a characteristic hazardous waste under RCRA. No EPA Waste Numbers are applicable for this product’s components. Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations.
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**14. Transport Information**

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The data provided in this section is for information only and may not be specific to your package size or mode of transport. You will need to apply the appropriate regulations to properly classify your shipment for transportation.

**International Transport Regulations**

<b>Regulatory information</b>	<b>UN/NA number</b>	<b>Proper Shipping Name</b>	<b>Classes/*PG</b>	<b>Additional Information</b>
<b>DOT</b>		Not regulated		
<b>TDG</b>		Not regulated		
<b>IMO/IMDG</b>		Not regulated		
<b>IATA</b>		Not regulated		

\*PG: Packing group

<b>Special precautions for user:</b>	Transport within user’s premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.
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**15. Regulatory Information**

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**UNITED STATES**

**U.S. Federal Regulations**

**United States – TSCA 12(b) – Chemical export notification: None Required.**

**United States – TSCA 5(a)2 – Final significant new use rules:** Not Listed.  
**United States – TSCA 5(a)2 – Proposed significant new use rules:** Not Listed.  
**United States – TSCA 5(e) – Substance consent order:** Not listed.

**Clean Air Act – Ozone Depleting Substances (ODS)** None.  
**Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)** None.  
**California Prop. 65** This product does not contain any Proposition 65 chemicals.  
**EPA SARA 302 Extremely Hazardous Substances** Not available.  
**EPA SARA 302/304/311/312 Hazardous Chemicals** Not available.  
**SARA 313** Not available.  
**Form R – Reporting requirements**  
**CERCLA Hazardous substances** Not available.

**CANADA**

Not available.

**INTERNATIONAL REGULATIONS**

**Australia inventory (AICS):** All components are listed or exempted.  
**DSL/NDL:** All components are listed or exempted.  
**EINECELSINCS:** All components are listed or exempted.  
**Korea inventory:** All components are listed or exempted.  
**New Zealand:** All components are listed or exempted.  
**Philippines inventory (PICCS):** All components are listed or exempted.  
**TSCA:** All components are listed or exempted.

## 16. Other Information, Including Date of Preparation or Last Revision

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**HMIS Rating**

**Health 0**  
**Flammability 0**  
**Physical Hazard 0**

**Date of Preparation** May 8, 2020  
**Date of Last Revision**  
**Revision #** 1.0  
**More Information** 1-253-333-8118  
**Prepared by** System Three Resins Inc.

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