SECTION 1: CHEMICAL PRODUCT & COMPANY IDENTIFICATION

PRODUCT/CHEMICAL NAME: JPS Astroquartz II & III Fabric

FINISH TYPES: 1258, 1326, 1327, 2029, 2142, 2341, 2597, 2827, 2837, 2838, 2839, 2847, 2940, 2979, 3029, 3057, 3059, 3142, 3258, 3341, 3346, 3347, 3412, 3738, 3779, 3827, 3836, 3837, 3897, 3940, 3969, 7525, 9073, 9710, 9779, 9789, 9836, 9837, 9839, 9897, 9898, 9969

APPLICATION: Industrial Applications

OTHER DESIGNATIONS: Woven Quartz Fabric

COMPANY: JPS Composite Materials
2200 S. Murray Ave., P.O. Box 2627, Anderson, SC 29624

PRODUCT INFORMATION: 1-800-288-0577 (8 am. to 5 pm Eastern Standard Time)

EMERGENCY PHONE: 1-800-288-0577

SECTION 2: HAZARD IDENTIFICATION

**********EMERGENCY OVERVIEW**********

JPS Composite Materials Corp. coated and finished fabrics are stable under normal ambient conditions

Potential Health Effects

Primary Entry Routes: Inhalation
Target Organs: None

Acute Effects

Inhalation: Mechanical irritation of the mouth, nose and throat
Eye: Direct contact will cause mechanical irritation.
Skin: Transient mechanical irritation. Occasionally there might be skin irritation noted by individuals who are initially exposed to fiberglass.

Ingestion: Observe individual. If symptoms of GI irritation develop, consult a physician.

Carcinogenicity: IARC, NTP, and OSHA do not list JPS Composite Materials Corp. finished glass fabrics as a carcinogen.

Medical Conditions Aggravated by Long-Term Exposure: Skin, eyes and respiratory irritation.

Chronic Effects: None Known (See Section 11)

GHS LABEL REQUIREMENTS: None

SECTION 3: INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>CAS Number</th>
<th>% wt or % vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Filament Amorphous Fused Silica</td>
<td>60676-86-0</td>
<td>98-99.9%</td>
</tr>
<tr>
<td>Silane Coupling Agents</td>
<td>None</td>
<td>0.05 to 0.5%</td>
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Trace Impurities: N/A

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>OSHA PEL</th>
<th>ACGIH TLV</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>TWA</td>
<td>STEL</td>
<td>TWA</td>
<td>STEL</td>
</tr>
<tr>
<td>Filament Amorphous Fused Silica</td>
<td>15 mg/cuM</td>
<td>N/E</td>
<td>10.0 mg/m³</td>
<td>N/E</td>
</tr>
<tr>
<td>Silane Coupling Agents</td>
<td>N/E</td>
<td>N/E</td>
<td>N/E</td>
<td>N/E</td>
</tr>
</tbody>
</table>
SECTION 4: FIRST AID MEASURES

**Inhalation:** If inhaled, remove to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, qualified personnel may administer oxygen. Get medical attention immediately.

**Eye:** In case of contact with the product or the cured product dust or particulate, immediately flush with water for 15 minutes, keeping the eyelids open. Get medical attention immediately.

**Skin:** In case of contact with the product or the cured product dust or particulate, immediately wash skin with a mild soap and room temperature to cool running water. Use a washcloth to help remove fibers. To avoid further irritation, do not rub or scratch irritated areas. Rubbing or scratching may force fibers into skin. Get medical attention immediately if the irritation persists.

**Ingestion:** Ingestion of the product or the dust or particulate from it is unlikely. If swallowed, get medical attention immediately.

After first aid, get appropriate in-plant, paramedic, or community medical support.

SECTION 5: FIRE FIGHTING MEASURES

**Flash Point:** None

**Flash Point Method:** N/A

**Burning Rate:** None

**Auto ignition Temperature:** None

**LEL:** None

**UEL:** None

**Flammability Classification:** Non-flammable

**Extinguishing Media:** Water is the best extinguishing media. Or use that which is appropriate for the surrounding area.

**Unusual Fire or Explosion Hazards:** Any sizing, binders or coatings on the fiberglass fabric might form hazardous decomposition products during a sustained fire. Follow fire-fighting procedures and use proper fire-fighting equipment.

**Fire-Fighting Instructions:** Do not release runoff from fire control methods to sewers or waterways.

**Fire-Fighting Equipment:** Because fire may produce toxic thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with a full face piece operated in pressure-demand or positive-pressure mode.

SECTION 6: ACCIDENTAL RELEASE MEASURES

**Spill /Leak Procedures:** Prevent the spread of quartz dust and avoid dust generation conditions. Vacuum clean dusts and fibers. If sweeping is necessary, use a dust suppressant. Those involved in the clean up of quartz fibers should use appropriate personal protective equipment. See Section 8.

**Containment:** N/A

**Regulatory Requirements:** Follow applicable OSHA regulations (29 CFR 1910.120).

SECTION 7: HANDLING & STORAGE

**Handling:** Handle properly to prevent the spread of quartz dust or fibers.

**Storage:** Store in proper containers to prevent the spread of dusts and fibers. Low humidity levels will increase the spread of dusts and fibers.

**Precautions to be taken in Handling and Storage:** Store in a cool, dry place. Maintain sealed against contamination from dirt and moisture. Keep away from food and drink. Avoid inhalation of filament or dust particulates generated during process operation.

**Regulatory Requirements:** Keep airborne dust and fiber concentrations below regulatory levels.

SECTION 8: EXPOSURE CONTROLS & PERSONAL PROTECTIVE EQUIPMENT

**Eye /Face Protection:** Avoid eye contact. Wear coverall goggles, as necessary, to prevent irritation, if airborne dust, fibers or particulate are present. Wear safety glasses with side shields, as necessary, if airborne dust, fibers or particulate are present when machining, grinding or sawing the cured product.

**Skin Protection:** Wear protective clothing such as a loose fitting, long sleeved shirt that covers to the base of the neck, long pants and gloves, as necessary, to prevent irritation. Skin irritation is known to occur primarily at pressure points such as around the neck, wrist, waist, and between fingers.

**Ventilation:** Provide general or local exhaust ventilation systems to maintain airborne dust or fiber concentrations below OSHA PELs (Sec. 2). Local exhaust ventilation is preferred because it prevents contaminant dispersion into the work area by
controlling it at its source.

**Respiratory Protection:** Where airborne dusts or fibers exceed the TLV, use NIOSH approved respirator to protect against nuisance dusts. Seek professional advice prior to respirator selection and use. Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, wear an MSHA/NIOSH-approved respirator. Select respirator based on its suitability to provide adequate worker protection for given working conditions and levels of airborne contamination.

**Protective Clothing/Equipment:** If necessary wear protective gloves or use barrier cream to protect against any mechanical irritation. Eye protection is not required unless fiber levels might cause mechanical irritation of the eyes or local regulations require the use of eye protection. Goggles should then be used. Other protective clothing is not required.

**Safety Stations:** Make emergency eyewash stations, safety/quick-drench showers, and washing facilities available in work area.

**Contaminated Equipment:** Separate contaminated work clothes from street clothes. Launder before reuse. Remove this material from your shoes and clean personal protective equipment.

**Comments:** Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics. Wash hands after handling this material.

### SECTION 9: PHYSICAL & CHEMICAL PROPERTIES

| Physical State: JPS Astroquartz I & II | Water Solubility: Not soluble |
| Appearance and Odor: no discernible odor | Other Solubility's: N/A |
| Odor Threshold: N/A | Boiling Point: N/A |
| Vapor Pressure: None | Freezing/Melting Point: 1650 Deg. C. |
| Vapor Density (Air=1): N/A | Viscosity: N/A |
| Formula Weight: None | Refractive Index: N/A |
| Density: N/A | Surface Tension: N/A |
| Specific Gravity (H2O=1, at 4 °C): N/A | % Volatile: 0% |
| pH: 6-8 (In distilled water) | Evaporation Rate: N/A |

### SECTION 10: STABILITY & REACTIVITY

**Stability:** JPS Astroquartz fabric is stable at room temperature in closed containers under normal storage and handling conditions.

**Polymerization:** Hazardous polymerization cannot occur.

**Chemical Incompatibilities:** None

**Conditions to Avoid:** None

**Hazardous Decomposition Products:** Thermal oxidative decomposition of JPS Astroquartz fabric can produce small amounts of oxides of carbon, nitrogen, and silicon.

### SECTION 11: TOXICOLOGICAL INFORMATION

**Fiber Toxicity:** Quartz Fiber diameter determines whether the fiber is respirable. NIOSH has determined that man-made mineral fibers with diameters equal or greater than 3.5 microns are non-respirable. Respirable fibers will penetrate deep into the lungs. All Quartz continuous filament have a fiber diameter larger than 3.5 microns and therefore are non-respirable.

**Carcinogenicity:** The following organizations have found that the continuous fiberglass filaments are not considered to be carcinogenic based on human and animal tests conducted within the last 10 years.
- Internal Agency for Research on Cancer- IARC
- American Conference of Governmental Industrial Hygienists – ACGIH
- Occupational Safety and Health Administration - OSHA
- National Toxicity Program NTP 7th Annual Report on Carcinogens

This would also apply to quartz filaments.

### SECTION 12: ECOLOGICAL INFORMATION

Quartz fabric, cleaned or finished is considered to be an inert solid waste and will not cause harm to the environment if spilled or released. This product is not manufactured with, or does not contain any Ozone depleting chemicals.
SECTION 13: DISPOSAL CONSIDERATIONS

Disposal: Contact your supplier or a licensed contractor for detailed recommendations. Follow applicable Federal, state, and local regulations.

Disposal Regulatory Requirements: N/A
Container Cleaning and Disposal: N/A

SECTION 14: TRANSPORT INFORMATION

DOT Transportation Data (49 CFR 172.101):

<table>
<thead>
<tr>
<th>Shipping Name:</th>
<th>JPS Astroquartz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fabric I &amp; II</td>
<td>Packaging Authorizations</td>
</tr>
<tr>
<td>Shipping Symbols:</td>
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<td>Hazard Class:</td>
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<table>
<thead>
<tr>
<th>Quantity Limitations</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Exceptions: None</td>
</tr>
<tr>
<td>b) Non-bulk Packaging: None</td>
</tr>
<tr>
<td>c) Bulk Packaging: None</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Vessel Stowage Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Vessel Stowage: None</td>
</tr>
<tr>
<td>b) Other: None</td>
</tr>
</tbody>
</table>

SECTION 15: REGULATORY INFORMATION

EPA Regulations:
RCRA Hazardous Waste Number: Not listed (40 CFR 261.33)
RCRA Hazardous Waste Classification (40 CFR 261.): Not classified
CERCLA Hazardous Substance (40 CFR 302.4) listed/unlisted specific per RCRA, Sec. 3001; CWA, Sec. 311 (b)(4); CWA, Sec. 307(a), CAA, Sec. 112
CERCLA Reportable Quantity (RQ), No RQ
SARA 311/312 Codes: N/A
SARA Toxic Chemical (40 CFR 372.65): Not listed
SARA EHS (Extremely Hazardous Substance) (40 CFR 355): Not listed, Threshold Planning Quantity (TPQ): None

OSHA Regulations:
Air Contaminant (29 CFR 1910.1000, Table Z-1, Z-1-A): Not listed
OSHA Specifically Regulated Substance (29CFR 1910.) No

State Regulations: None

SECTION 16: OTHER INFORMATION

Explanation and Disclaimer: Wherever such words or phrases as "hazardous," "toxic," "carcinogen," etc. appear herein, they are used as defined or described under state employee right-to-know laws, Federal OSHA laws or the direct sources for these laws such as the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP), etc. The use of such words or phrases should not be taken to mean that we deem or imply any substance or exposure to be toxic, hazardous or otherwise harmful.

Any exposure can only be understood within the entire context of its occurrence, which includes such factors as the substance’s characteristics as defined in the SDS, amount and duration of exposures, other chemicals present and pre-existing individual differences in response to the exposure.

The data provided in this SDS is based on the information received from our raw material suppliers and other sources believed to be reliable. We are supplying you this data solely in compliance with the Federal OSHA Hazard Communication Standard, 29 CFR 1910.1200 and other Federal and state laws as described in Section 15: Regulatory Information.

The information contained in this SDS is proprietary and confidential to JPS Composite Materials. This SDS and the information in it are not to be used for purposes other than compliance with the Federal OSHA Hazard Communication Standard. If you have received this SDS from any other source than JPS Composite Materials or its authorized agent, the information contained in it may have been modified from the original document and it may not be the most current revision.

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