MATERIAL SAFETY DATA SHEET

SECTION 1 - MATERIAL IDENTIFICATION AND USE

MATERIAL: WOVEN CERAMIC FIBER
PRODUCT USE: CERAMIC WOVEN MATRIX BURNER

MANUFACTURER NAME: Innovative Thermal Systems Inc.
SUPPLIER NAME: Innovative Thermal Systems Inc.

STREET ADDRESS: 396 Henry Street
CITY: Brantford, Ontario
COUNTRY: Canada
POSTAL CODE: N3S 7W1
PHONE: 519-751-7999

INGREDIENTS:
- Aluminoborosilicate
- Rayon
- Organic Sizing

C.A.S. NO.:
- 12788-79-3
- 61788-77-0
- Trade Secret

% BY WT.:
- 70-95
- 5-30
- <5

SECTION 2 - HAZARDOUS INGREDIENTS

HAZARDOUS INGREDIENTS N/A % N/A UN. NA OR CASE NUMBERS: N/A LD/50 OF MATERIAL: N/A

NOTE:
This Product, when used under reasonable conditions and in accordance with ITS’s directions for use, should not present a health hazard.

SECTION 3 - PHYSICAL DATA

PHYSICAL STATE:
- GAS ( ) LIQUID ( ) SOLID (X)

ODOUR AND APPEARANCE:
- ODORLESS FIBER

ODOUR THRESHOLD (PPM): N/A
VAPOUR PRESSURE (mm Hg): N/A

FREEZING POINT (°C): N/A
VAPOUR DENSITY (AIR-1): N/A
EVAPORATION RATE: N/A
MELTING POINT (°C): 1800

% VOLATILE (BY VOL.): N/A
SOLUBILITY IN WATER (20 °C): N/A
BULK DENSITY: 3.05 g/cc.
SPECIFIC GRAVITY: 3.05
COEFFICIENT WATER OIL DIST: N/A
### SECTION 4 - FIRE AND EXPLOSIVE DATA

**FLAMMABILITY**

<table>
<thead>
<tr>
<th>YES ( )</th>
<th>NO ( X )</th>
<th>IF YES, UNDER WHICH CONDITIONS?</th>
</tr>
</thead>
</table>

**MEANS OF EXTINCTION:**

**SPECIAL PROCEDURE:**

<table>
<thead>
<tr>
<th>FLAMMABILITY CLASSIFICATION</th>
<th>UPPER EXPLOSION LIMIT (% BY VOLUME)</th>
<th>LOWER EXPLOSION LIMIT (% BY VOLUME)</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>AUTO IGNITION TEMPERATURE (°C):</th>
<th>TDG FLAMMABILITY CLASSIFICATION</th>
<th>HAZARDOUS COMBUSTION PRODUCTS:</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EXPLOSION DATA: SENSITIVITY TO IMPACT:</th>
<th>SENSITIVITY TO STATIC DISCHARGE:</th>
<th>EXPLOSIVE POWER:</th>
<th>RATE OF BURNING:</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
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</tbody>
</table>

### SECTION 5 - REACTIVITY DATA

**CHEMICAL STABILITY**

<table>
<thead>
<tr>
<th>YES ( X ), NO ( )</th>
<th>IF NO UNDER WHICH CONDITIONS?</th>
</tr>
</thead>
</table>

**COMPATIBILITY WITH OTHER SUBSTANCES**

<table>
<thead>
<tr>
<th>YES ( X ), NO ( )</th>
<th>IF NO, WHICH ONES?</th>
</tr>
</thead>
</table>

**REACTIVITY UNDER WHICH CONDITIONS:**

<table>
<thead>
<tr>
<th>NON-REACTIVE</th>
</tr>
</thead>
</table>

**HAZARDOUS DECOMPOSITION PRODUCTS:**

Under recommended usage conditions, hazardous decomposition products are not expected. Hazardous decomposition products may occur as a result of oxidation, heating, or reaction with another material:

1. Carbon Monoxide @ elevated temperatures
2. Irritant Vapor or gases @ elevated temperatures

### SECTION 6 - TOXICOLOGICAL PROPERTIES

**ROUTE OF ENTRY:**

<table>
<thead>
<tr>
<th>SKIN CONTACT (X)</th>
<th>SKIN ABSORPTION ( )</th>
<th>EYE CONTACT (X)</th>
<th>INHALATION ACUTE ( )</th>
<th>INHALATION CHRONIC ( )</th>
<th>INGESTION ( )</th>
</tr>
</thead>
</table>

**EFFECTS OF ACUTE EXPOSURE TO MATERIAL:**

<table>
<thead>
<tr>
<th>NO EFFECT</th>
</tr>
</thead>
</table>

**EFFECTS OF CHRONIC EXPOSURE:**

**LD/50 OF MATERIAL:**

<table>
<thead>
<tr>
<th>N/A</th>
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</table>

**LC/50 OF MATERIAL:**

<table>
<thead>
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<th>N/A</th>
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</thead>
</table>

**EXPOSURE LIMIT OF MATERIAL:**

<table>
<thead>
<tr>
<th>Organic Sizing 10 mg/m³</th>
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</table>

**IRRITANCY OF MATERIAL:**

<table>
<thead>
<tr>
<th>N/A</th>
</tr>
</thead>
</table>
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SECTION 7 - PREVENTIVE MEASURES

PERSONAL PROTECTIVE EQUIPMENT:
Avoid Eye contact. Safety Glasses with side shields are recommended.
Avoid prolonged or repeated skin contact. Avoid skin contact with hot material. Wear heat insulating gloves when handling this material to prevent thermal burns. Select and use gloves and/or protective clothing to prevent skin contact based on the results of the exposure assessment. Long sleeve clothing with tight fitting cuffs are recommended to minimize skin contact.

GLOVES (SPECIFY): SEE ABOVE
RESPIRATORY (SPECIFY): N/A
EYE (SPECIFY): SEE ABOVE
FOOTWEAR (SPECIFY): N/A
CLOTHING (SPECIFY): SEE ABOVE
OTHER (SPECIFY): N/A

ENGINEERING CONTROLS (SPECIFY E.G. VENTILATION ENCLOSED PROCESS): N/A

LEAK AND SPILL PROCEDURE: N/A

WASTE DISPOSAL: N/A

HANDLING PROCEDURES AND EQUIPMENT: N/A

STORAGE REQUIREMENTS:
Store under normal warehouse conditions.

SPECIAL SHIPPING INFORMATION: N/A

SECTION 8 - FIRST AID MEASURES

Eye Contact: Flush eye with large amounts of water. If signs/symptoms persist, seek medical attention.
Skin Contact: Wash affected area with soap and water. If signs/symptoms persist, seek medical attention.
Inhalation: If signs/symptoms develop, remove person to fresh air. If signs/symptoms persist, seek medical attention. No need for first aid is anticipated.
If Swallowed: Do not induce vomiting unless instructed to do so by medical personnel. Give victim two glasses of water. Never give anything by mouth to an unconscious person. Get medical attention.

SOURCES USED: 3M MSDS Nextel Woven Ceramic Fabric 11/16/12
ADDITIONAL INFORMATION: Contact ITS

SECTION 9 - PREPARATION DATE OF THE MSDS

PREPARED BY
(GROUP, DEPARTMENT, ETS)
Production Department.
Innovative Thermal Systems Inc.

PHONE NUMBER: 519-751-7999
DATE PREPARED: Nov. 14, 2013