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|                                                                                   | Safety Data Sheet |           |                                       |                          |

**1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

|                                                                                                                                                                                                                                                                                                        |                                                                                                             |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| <b>Chemical Name :</b> Ceramic Powder<br><b>Product Name :</b> F 12 Frit<br><b>Product Type :</b> Glass Powder<br><b>Description :</b> Glassy substance, comprising inorganic components, and obtained by melting and quenching.                                                                       | <b>Manufacturer Identification</b><br>Fusion Ceramics, Inc.<br>160 Scio Road S.E.<br>Carrollton, Ohio 44615 |
| <b>CAS # :</b> 65997-18-4<br><b>TSCA Description:</b> Frit is a mixture of inorganic chemical substances produced by rapidly quenching a molten, complex combination of materials, confining the chemical substances thus manufactured as non-migratory components of glassy solid flakes or granules. |                                                                                                             |
| <b>Emergency Telephone Number</b> (330) 627-2191                                                                                                                                                                                                                                                       |                                                                                                             |

**2. HAZARDS IDENTIFICATION**

|                                                                                                                                                                                                                                                                                                                                                                                                                      |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>GHS Classification</b><br>Not a hazardous substance.                                                                                                                                                                                                                                                                                                                                                              |
| <b>GHS Label element</b><br>Not a hazardous substance.                                                                                                                                                                                                                                                                                                                                                               |
| <b>Potential Health Effects</b><br><b>Principle routes of exposure:</b> Eye and skin contact, inhalation, and ingestion.<br><b>Eye Contact:</b> Contact with eyes may cause irritation.<br><b>Skin Contact:</b> Prolonged skin contact may cause irritation.<br><b>Inhalation:</b> Dust or fumes from firing may irritate respiratory tract or lung inflammation.<br><b>Ingestion:</b> May irritate digestive tract. |

**3. COMPOSITION / INFORMATION ON INGREDIENTS**

| Component | CAS Number | Weight % **      |
|-----------|------------|------------------|
| F 12 Frit | 65997-18-4 | 100% (see below) |

\*\* - Frit is a mixture of inorganic chemical substances produced by rapidly quenching a molten, complex combination of materials, confining the chemical substances thus manufactured as non-migratory components of glassy solid flakes or granules.

**4. FIRST AID MEASURES**

|                                                                                                                                                                                                                                                                    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Eye Contact</b><br>Flush eyes with clean water repeatedly until clear. If irritation persists, Seek Medical Attention!                                                                                                                                          |
| <b>Skin Contact</b><br>Wash affected areas thoroughly with soap and water. Remove and launder contaminated clothing before reuse. Do not take contaminated clothing home for laundering. Consult a physician if exposure results in skin complications (i.e. rash) |

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**Inhalation**  
 Move subject to fresh air. If breathing is labored or difficult, give oxygen. *Seek Medical Attention!*  
 If subject is not breathing *administer CPR and Seek Medical Attention Immediately!*

**Ingestion**  
 If this material is swallowed give subject two glasses of water and induce vomiting with ipecac syrup. Do not induce vomiting by or administer anything by mouth to an unconscious person. Seek Medical Attention.

  

**5. FIRE FIGHTING MEASURES**

|                                |                |
|--------------------------------|----------------|
| Flash Point (°F)               | Not applicable |
| Auto Ignition Temperature (°F) | Nonflammable   |
| Explosive Limit                | Not applicable |
| Reactivity with Water          | Not applicable |
| Spontaneous Polymerization     | Not applicable |

**Extinguishing Agents**  
 Product is not flammable; use extinguishing media that is appropriate for the surroundings and situation.

**Personal Protection Equipment**  
 Wear appropriate safety equipment at all times. When fighting fire, avoid breathing any smoke.

**Hazardous Products of Combustion**  
 Thermal decomposition can generate irritating gases and vapors.

  

**Special Procedures**  
 Avoid contact with strong acids, alkali, oxidizing agents.

  

**6. ACCIDENTAL RELEASE MEASURES**

**Personal Protection**  
 The use of appropriate personal protective equipment is recommended at all times when handling this material. Avoid dust formation. Do not breathe dust and avoid contact with skin, eyes and clothing. If exposed to materials during cleanup refer to Section 4. FIRST AID MEASURES, for actions to follow.

**Spill Cleaning Procedures**  
 Wear personal protective equipment and use approved industrial vacuum cleaner to remove material. Dispose of spilled material promptly and properly, in accordance with all relevant regulations. In the United States call the EPA hotline for assistance at 1-800-535-0202.

**Environmental Precautions**  
 If safe to do so, prevent further spillage, and keep all run off and spills from entering municipal sewers or open water sources.

  

**7. HANDLING AND STORAGE**

**Handling Procedures**  
 Handle using good industrial hygiene and safety procedures, including the use of personal safety equipment and a safe, well-ventilated environment. Avoid contact with skin, eyes and clothing, and do not eat, drink or smoke in areas used for handling or storing this material.

**Storage Conditions**

|                                                                                   |                   |           |                                       |                          |
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All materials should be stored in a well ventilated, cool dry location. Store all material away from feed or food contact applications and products. Containers should be protected from physical damage and keep sealed to avoid contamination from outside sources. See Section 8. EXPOSURE CONTROLS / PERSONAL PROTECTION for additional information.

## 8. EXPOSURE CONTROL / PERSONAL PROTECTION

### Personal Protection Recommendations



Respiratory Protection



Eye Protection



Hand Protection

#### **Respiratory Protection**

A respiratory protection program meeting OSHA 1910.134 and ANSI Z88.2 requirements or equivalent must be followed whenever workplace conditions warrant a respirators use. If workplace exposure limits of products or components are exceeded, a NIOSH / MSHA approved respirator is required.

#### **Eye Protection**

Use chemical resistant splash goggles (ANSI Z87.1 or an approved equivalent) at all times. Eye protection worn must be compatible with the respiratory system employed. Consult federal, state, and local regulations for approved alternate protection methods.

#### **Hand Protection**

Chemical resistant gloves should be used whenever this material is handled. Gloves should be inspected regularly and discarded if defective. Rinse and wash hands after removing gloves.

#### **Engineering Controls (Ventilation)**

Engineering and / or administrative controls should be implemented to reduce exposure levels. Refer to the current specification requirements OSHA 29CFR1910.94 ( as revised) or the current edition of Industrial Ventilation: A Manual of Recommended Practice, published by the American Conference of Governmental Hygienists for information on the design, installation, use, and maintenance of exhaust systems.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

|                                   |              |
|-----------------------------------|--------------|
| Appearance                        | Powder       |
| Color                             | White        |
| State                             | Powder       |
| Odor Characteristic               | Odorless     |
| VOC content %                     | 0            |
| Specific Gravity (Water =1 g/cc)  | N/A          |
| Melting Point (°F)                | N/A          |
| Boiling Point (°F)                | N/A          |
| Solubility in Water               | N/A          |
| Evaporation Rate (Butyl Acet = 1) | Non Volatile |

The physical and chemical data given in Section 9 are typical values for this material and are not intended to be product specifications.

|                                                                                   |                          |                  |                                                     |                                        |
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See Section 5. FIRE FIGHTING MEASURES

**10. STABILITY AND POLYMERIZATION**

**Instability**  
 This material is considered stable, however, avoid contact with ignition sources (I.e. open flame, heated surfaces, and sparks)

**Hazardous Decomposition and Polymerization**  
 This material is considered nonreactive and inert, however, contact with strong acids, alkali, and oxidizing agents should be avoided. This material will not undergo spontaneous polymerization.

**11. TOXICOLOGICAL INFORMATION**

**Acute Data**  
 No toxicity data are available for this formulation. The results of overexposure are based on those for the individual components for this formula.

**Sensitivity**  
 Prolonged or excessive breathing of other exposure to this material may result in irritation of the respiratory tract. Proper handling should be exercised at all times.

**12. ECOLOGICAL INFORMATION**

This material should not be allowed to enter open water sources or municipal sewers.

**13. DISPOSAL CONSIDERATIONS**

**Procedure**  
 Dispose of all contaminated material and empty containers according to all federal, state, and local regulations. All cardboard, if clean, may be disposed of or recycled according to regulations. All contact surfaces should be considered hazardous until determined otherwise for disposal.

**14. TRANSPORT INFORMATION**

US DOT Hazard Class\_\_\_\_\_ Non Regulated

This classification is used when shipping in non- bulk packages for domestic surface transportation only. Exceptions in CFR 49 Parts 171-177 may apply. Consult CFR 49 171-177 to determine appropriate classification when repackaging and reshipping this material in other than its original container.

**15. REGULATORY INFORMATION**

**Workplace Classification**  
 This product should be considered hazardous until determined nonhazardous by the end user. This material is controlled substance under the Canadian Workplace Hazardous Materials Information System (WHMIS)

**SARA Title 3: Section 313 Information (40 CFR 372)**  
 This material contains the following chemicals which are reported as toxic under the requirements of

|                                                                                   |                          |                  |                                                     |                                        |
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Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 ( 40 CFR 372)

|         |               |          |  |
|---------|---------------|----------|--|
| 313 ID# | Chemical Name | Weight % |  |
|---------|---------------|----------|--|

#### United States

All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Control Inventory or are not regulated as such under this action.

#### 16. OTHER INFORMATION

##### Other Information

The information contained herein relates only to the specific material identified. Fusion Ceramics, Inc. believes that such information is accurate and reliable as of the date of the Safety Data Sheet, but no representation, guarantee or warranty, expressed or implied, is made as to the accuracy, reliability, or completeness of the information.

Fusion Ceramics, Inc. urges persons receiving this information to make their own determination as to the information's suitability and completeness for their particular application.