



**Ceradyne, Inc.**  
a 3M company

## Safety Data Sheet

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### SECTION 1: Identification

#### 1.1. Product identifier

3M™ Fused Silica Grains and Flours

#### Product Identification Numbers

dummys3227, 98-0090-0026-0, 98-0090-0032-8, 98-0090-0033-6, 98-0090-0034-4, 98-0090-0035-1, 98-0090-0036-9, 98-0090-0037-7, 98-0090-0038-5, 98-0090-0039-3, 98-0090-0040-1, 98-0090-0041-9, 98-0090-0042-7, 98-0090-0043-5, 98-0090-0044-3, 98-0090-0045-0, 98-0090-0046-8, 98-0090-0047-6, 98-0090-0068-2, 98-0090-0069-0, 98-0090-0070-8, 98-0090-0071-6, 98-0090-0072-4, 98-0090-0073-2, 98-0090-0074-0, 98-0090-0075-7, 98-0090-0076-5, 98-0090-0077-3, 98-0090-0078-1, 98-0090-0079-9, 98-0090-0080-7, 98-0090-0081-5, 98-0090-0082-3, 98-0090-0083-1, 98-0090-0084-9, 98-0090-0085-6, 98-0090-0087-2, 98-0090-0088-0, 98-0090-0089-8, 98-0090-0090-6, 98-0090-0389-2, 98-0090-0390-0, 98-0090-0417-1, 98-0090-0422-1, 98-0090-0423-9, 98-0090-0425-4, 98-0090-0515-2, 98-0090-0516-0, 98-0090-0528-5, 98-0090-0529-3, 98-0090-0530-1, 98-0090-0534-3, 98-0090-0535-0, 98-0090-0536-8, 98-0090-0537-6, 98-0090-0538-4, 98-0090-0577-2, 98-0090-0581-4, 98-0090-0582-2, 98-0090-0726-5, 98-0090-0965-9, 98-0213-3100-8, 98-0213-3156-0, 98-0213-3329-3

#### 1.2. Recommended use and restrictions on use

##### Recommended use

General Refractory Applications

#### 1.3. Supplier's details

<b>MANUFACTURER:</b>	Ceradyne, Inc.
<b>DIVISION:</b>	Ceradyne, Inc.
<b>ADDRESS:</b>	3M Center, St. Paul, MN 55144-1000, USA
<b>Telephone:</b>	1-800-364-3577

#### 1.4. Emergency telephone number

1-800-364-3577 or (651) 737-6501 (24 hours)

### SECTION 2: Hazard identification

#### 2.1. Hazard classification

Not classified as hazardous according to OSHA Hazard Communication Standard, 29 CFR 1910.1200.

#### 2.2. Label elements

**Signal word**

Not applicable.

**Symbols**

Not applicable.

**Pictograms**

Not applicable.

**2.3. Hazards not otherwise classified**

None.

**SECTION 3: Composition/information on ingredients**

Ingredient	C.A.S. No.	% by Wt
Amorphous Fused Silica	60676-86-0	> 99

**SECTION 4: First aid measures****4.1. Description of first aid measures****Inhalation:**

Remove person to fresh air. If you feel unwell, get medical attention.

**Skin Contact:**

Wash with soap and water. If signs/symptoms develop, get medical attention.

**Eye Contact:**

Flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms persist, get medical attention.

**If Swallowed:**

No need for first aid is anticipated.

**4.2. Most important symptoms and effects, both acute and delayed**

See Section 11.1. Information on toxicological effects.

**4.3. Indication of any immediate medical attention and special treatment required**

Not applicable.

**SECTION 5: Fire-fighting measures****5.1. Suitable extinguishing media**

Material will not burn. Use a fire fighting agent suitable for the surrounding fire.

**5.2. Special hazards arising from the substance or mixture**

None inherent in this product.

**5.3. Special protective actions for fire-fighters**

No special protective actions for fire-fighters are anticipated.

**SECTION 6: Accidental release measures**

**6.1. Personal precautions, protective equipment and emergency procedures**

Ventilate the area with fresh air. Observe precautions from other sections.

**6.2. Environmental precautions**

Avoid release to the environment.

**6.3. Methods and material for containment and cleaning up**

Collect as much of the spilled material as possible. Sweep up. Place in a closed container approved for transportation by appropriate authorities. Clean up residue. Seal the container. Dispose of collected material as soon as possible.

**SECTION 7: Handling and storage****7.1. Precautions for safe handling**

Avoid skin contact with hot material. Avoid breathing dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.)

**7.2. Conditions for safe storage including any incompatibilities**

Store away from oxidizing agents.

**SECTION 8: Exposure controls/personal protection****8.1. Control parameters****Occupational exposure limits**

No occupational exposure limit values exist for any of the components listed in Section 3 of this SDS.

**8.2. Exposure controls****8.2.1. Engineering controls**

Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

**8.2.2. Personal protective equipment (PPE)****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:

Full Face Shield

Indirect Vented Goggles

**Skin/hand protection**

No chemical protective gloves are required.

**Respiratory protection**

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:

Half facepiece or full facepiece air-purifying respirator suitable for particulates

For questions about suitability for a specific application, consult with your respirator manufacturer.

**Thermal hazards**

Wear heat insulating gloves when handling hot material to prevent thermal burns.

**SECTION 9: Physical and chemical properties****9.1. Information on basic physical and chemical properties**

<b>General Physical Form:</b>	Solid
<b>Specific Physical Form:</b>	Grains and Powder
<b>Odor, Color, Grade:</b>	Odorless white powder
<b>Odor threshold</b>	<i>No Data Available</i>
<b>pH</b>	<i>Not Applicable</i>
<b>Melting point</b>	<i>No Data Available</i>
<b>Boiling Point</b>	<i>Not Applicable</i>
<b>Flash Point</b>	No flash point
<b>Evaporation rate</b>	<i>Not Applicable</i>
<b>Flammability (solid, gas)</b>	Not Classified
<b>Flammable Limits(LEL)</b>	<i>Not Applicable</i>
<b>Flammable Limits(UEL)</b>	<i>Not Applicable</i>
<b>Vapor Pressure</b>	<i>Not Applicable</i>
<b>Vapor Density</b>	<i>Not Applicable</i>
<b>Density</b>	60 - 90 lb/ft <sup>3</sup>
<b>Specific Gravity</b>	2.2 [Ref Std: WATER=1]
<b>Solubility in Water</b>	Negligible
<b>Solubility- non-water</b>	<i>No Data Available</i>
<b>Partition coefficient: n-octanol/ water</b>	<i>No Data Available</i>
<b>Autoignition temperature</b>	<i>Not Applicable</i>
<b>Decomposition temperature</b>	<i>No Data Available</i>
<b>Viscosity</b>	<i>Not Applicable</i>
<b>Molecular weight</b>	<i>No Data Available</i>

**SECTION 10: Stability and reactivity****10.1. Reactivity**

This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

**10.2. Chemical stability**

Stable.

**10.3. Possibility of hazardous reactions**

Hazardous polymerization will not occur.

**10.4. Conditions to avoid**

None known.

**10.5. Incompatible materials**

Strong oxidizing agents

**10.6. Hazardous decomposition products****Substance**

None known.

**Condition**

At Elevated Temperatures

**SECTION 11: Toxicological information**

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

### 11.1. Information on Toxicological effects

#### Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

#### Inhalation:

May be harmful if inhaled. Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Dust from cutting, grinding, sanding or machining may cause irritation of the respiratory system. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

#### Skin Contact:

Mechanical Skin irritation: Signs/symptoms may include abrasion, redness, pain, and itching.

#### Eye Contact:

Mechanical eye irritation: Signs/symptoms may include pain, redness, tearing and corneal abrasion.

Dust created by cutting, grinding, sanding, or machining may cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

#### Ingestion:

No known health effects.

#### Toxicological Data

If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

#### Acute Toxicity

Name	Route	Species	Value
Overall product	Inhalation-Dust/Mist(4 hr)		No data available; calculated ATE 5 - 12.5 mg/l
Overall product	Ingestion		No data available; calculated ATE > 5,000 mg/kg
Amorphous Fused Silica	Dermal	Rabbit	LD50 > 5,000 mg/kg
Amorphous Fused Silica	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l
Amorphous Fused Silica	Ingestion	Rat	LD50 > 5,110 mg/kg

ATE = acute toxicity estimate

#### Skin Corrosion/Irritation

Name	Species	Value
Amorphous Fused Silica	Rabbit	No significant irritation

#### Serious Eye Damage/Irritation

Name	Species	Value
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Amorphous Fused Silica	Rabbit	No significant irritation
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**Skin Sensitization**

Name	Species	Value
Amorphous Fused Silica	Human and animal	Not sensitizing

**Respiratory Sensitization**

For the component/components, either no data are currently available or the data are not sufficient for classification.

**Germ Cell Mutagenicity**

Name	Route	Value
Amorphous Fused Silica	In Vitro	Not mutagenic

**Carcinogenicity**

Name	Route	Species	Value
Amorphous Fused Silica	Not Specified	Mouse	Some positive data exist, but the data are not sufficient for classification

**Reproductive Toxicity**

**Reproductive and/or Developmental Effects**

Name	Route	Value	Species	Test Result	Exposure Duration
Amorphous Fused Silica	Ingestion	Not toxic to female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
Amorphous Fused Silica	Inhalation	Not toxic to male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation
Amorphous Fused Silica	Ingestion	Not toxic to development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis

**Target Organ(s)**

**Specific Target Organ Toxicity - single exposure**

For the component/components, either no data are currently available or the data are not sufficient for classification.

**Specific Target Organ Toxicity - repeated exposure**

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Amorphous Fused Silica	Inhalation	respiratory system   silicosis	All data are negative	Human	NOAEL Not available	occupational exposure

**Aspiration Hazard**

For the component/components, either no data are currently available or the data are not sufficient for classification.

**Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.**

**SECTION 12: Ecological information**

**Ecotoxicological information**

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

**Chemical fate information**

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

## SECTION 13: Disposal considerations

### 13.1. Disposal methods

Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Dispose of waste product in a permitted industrial waste facility. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

**EPA Hazardous Waste Number (RCRA):** Not regulated

## SECTION 14: Transport Information

Please contact the emergency numbers listed on the first page of the MSDS for Transportation Information for this material.

## SECTION 15: Regulatory information

### 15.1. US Federal Regulations

Contact manufacturer for more information

#### 311/312 Hazard Categories:

Fire Hazard - No      Pressure Hazard - No      Reactivity Hazard - No      Immediate Hazard - Yes      Delayed Hazard - No

### 15.2. State Regulations

Contact manufacturer for more information

### 15.3. Chemical Inventories

The components of this material are in compliance with the provisions of Australia National Industrial Chemical Notification and Assessment Scheme (NICNAS). Certain restrictions may apply. Contact the selling division for additional information.

The components of this product are in compliance with the new substance notification requirements of CEPA.

The components of this material are in compliance with the China "Measures on Environmental Management of New Chemical Substance". Certain restrictions may apply. Contact the selling division for additional information.

The components of this material are in compliance with the provisions of the Korean Toxic Chemical Control Law. Certain restrictions may apply. Contact the selling division for additional information.

The components of this material are in compliance with the provisions of Japan Chemical Substance Control Law. Certain restrictions may apply. Contact the selling division for additional information.

The components of this material are in compliance with the provisions of Philippines RA 6969 requirements. Certain restrictions may apply. Contact the selling division for additional information.

The components of this product are in compliance with the chemical notification requirements of TSCA.

Contact manufacturer for more information

#### 15.4. International Regulations

Contact manufacturer for more information

**This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.**

### SECTION 16: Other information

#### NFPA Hazard Classification

**Health: 1 Flammability: 0 Instability: 0 Special Hazards: None**

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

#### HMIS Hazard Classification

**Health: 1 Flammability: 0 Physical Hazard: 0 Personal Protection: X - See PPE section.**

Hazardous Material Identification System (HMIS® IV) hazard ratings are designed to inform employees of chemical hazards in the workplace. These ratings are based on the inherent properties of the material under expected conditions of normal use and are not intended for use in emergency situations. HMIS® IV ratings are to be used with a fully implemented HMIS® IV program. HMIS® is a registered mark of the American Coatings Association (ACA).

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