Safety Data Sheet

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This Safety Data Sheet (SDS) is provided as a courtesy in response to a customer request. This product is not regulated under, and a SDS is not required for this product by the OSHA Hazard Communication Standard (29 CFR 1910.1200) because, when used as recommended or under ordinary conditions, it should not present a health and safety hazard. However, use or processing of the product not in accordance with the product's recommendations or not under ordinary conditions may affect the performance of the product and may present potential health and safety hazards.

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SECTION 1: Identification

1.1. Product identifier
3M™ Nextel™ Ceramic Fiber 440 with Organic Sizing

Product Identification Numbers
42-0005-4585-7, 42-0005-6601-0, 42-0005-9814-6, 42-0010-8121-7, 42-0015-0202-2, 42-0015-0270-9, 42-0015-0311-1, 44-0005-9685-6, 44-0005-9693-0, 44-0028-0118-9, 44-0028-0120-5, 44-0028-0121-3, 44-0061-3018-9, 80-0015-0201-4, 80-0015-0216-2, 98-0213-3044-8, 98-0213-3342-6, 98-0213-3765-8, 98-0400-0328-1, 98-0400-0378-6, 98-0400-0402-4, 98-0400-0546-8, 98-0400-0582-3, 98-0400-0591-4, 98-0400-0592-2, 98-0400-0602-9, 98-0400-0606-0, 98-0400-0639-1, 98-0400-0648-2, 98-0400-0649-0, 98-0400-0650-8, 98-0400-0652-4, 98-0400-0711-8, 98-0400-1028-6, 98-0400-1772-9, 98-0400-2191-1, 98-0400-2208-3, 98-0400-2209-1, 98-0400-2266-1, 98-0400-2345-3, 98-0400-2354-5, 98-0400-2912-0, 98-0400-3292-6, 98-0400-5920-0, 98-0400-5921-8, 98-0400-5922-6, 98-0400-6504-1, 98-0400-6630-4, 98-0400-6686-6, 98-0400-6846-6, 98-0400-6850-8, 98-0400-6874-8, 98-0400-6882-1
4100009706, 4100013616, 4100008821, 7100035567, 4010045192, 7100042516, 7100041962, 7010321633, 7010321634, 7010402857, 7100041963, 7100037783, 7100041925, 7010402859, 7100041964, 7100041965, 7010353006, 7010402862, 7010402865, 7100037193, 7010353012, 7010320519, 7010402873, 7000059377, 7010402875, 7010353016, 7100041142, 7010402888, 7000059435, 7000059436, 7000059437, 7100046060, 4010038244, 7010353188, 4010043635, 4010034206, 7010400941, 7010402896, 7010400925, 7100046062, 7010304648, 4010044708, 4010043023, 4010037357, 7100040442, 7010320502, 7010321461, 7100208760, 7100305514, 4100050929, 7100314523

1.2. Recommended use and restrictions on use

Recommended use
Ceramic Fiber

1.3. Supplier's details

MANUFACTURER:	3M
DIVISION:	Advanced Materials Division
ADDRESS:	3M Center, St. Paul, MN 55144-1000, USA
Telephone:	1-888-3M HELPS (1-888-364-3577)

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. This product is exempt from hazard classification according to OSHA Hazard Communication Standard, 29 CFR 1910.1200.

2.2. Label elements
Signal word
Not applicable.

Symbols
Not applicable

Pictograms
Not applicable

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
Organic Sizing	Trade Secret*	< 5
Aluminoborosilicate Fibers	12788-79-3	> 95

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:
No need for first aid is anticipated. If symptoms develop, remove the affected person to fresh air. Get medical attention.

Skin Contact:
If exposed, wash with soap and water. If signs/symptoms develop, get medical attention.

Eye Contact:
If exposed, flush eyes with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms develop, get medical attention.

If Swallowed:
Do not induce vomiting. Rinse mouth. If you feel unwell, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed
No critical symptoms or effects. 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
Not applicable.

6.2. Environmental precautions
Not applicable.

6.3. Methods and material for containment and cleaning up
Not applicable.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Avoid breathing of dust created by cutting, sanding, grinding or machining. This product is considered to be an article which does not release or otherwise result in exposure to a hazardous chemical under normal use conditions.

7.2. Conditions for safe storage including any incompatibilities
Not applicable.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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.

Ingredient	C.A.S. No.	Agency	Limit type	Additional Comments
Borate compounds, inorganic, inhalable fraction	12788-79-3	ACGIH	TWA(inhalable fraction):2 mg/m3;STEL(inhalable fraction):6 mg/m3	A4: Not class. as human carcin
Organic Sizing	Trade Secret	AIHA	TWA:10 mg/m3	

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
OSHA : United States Department of Labor - Occupational Safety and Health Administration
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls
Not applicable.

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:
Safety Glasses with side shields

Skin/hand protection
No protective gloves required.

Respiratory protection

Respiratory protection is not required.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Solid
Color	White
Odor	Odorless
Odor threshold	*Not Applicable*
pH	*Not Applicable*
Melting point	>=1800 ºC
Boiling Point	*Not Applicable*
Flash Point	No flash point
Evaporation rate	*Not Applicable*
Flammability	Not Applicable
Flammable Limits(LEL)	*Not Applicable*
Flammable Limits(UEL)	*Not Applicable*
Vapor Pressure	*Not Applicable*
Relative Vapor Density	*Not Applicable*
Density	2.70 - 3.05 g/cm3
Relative Density	2.7 - 3.05 [*Ref Std:*WATER=1]
Solubility In Water	0.5 - 3.5 % [*Details:*CONDITIONS: 0.5-3.5% BY WEIGHT]
Solubility- non-water	*Not Applicable*
Partition coefficient: n-octanol/ water	*No Data Available*
Autoignition temperature	*No Data Available*
Decomposition temperature	*Not Applicable*
Kinematic Viscosity	*Not Applicable*
Molecular weight	*No Data Available*
Volatile Organic Compounds	*No Data Available*
VOC Less H2O & Exempt Solvents	*No Data Available*
Particle Characteristics	*Not Applicable*

SECTION 10: Stability and reactivity

10.1. Reactivity
This material is considered to be non reactive under normal use conditions.

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
None known.

10.6. Hazardous decomposition products

Substance	Condition
Carbon monoxide	At Elevated Temperatures
Irritant Vapors or Gases	At Elevated Temperatures

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.

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:
No health effects are expected.

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.

Ingestion:
Physical Blockage: Signs/symptoms may include cramping, abdominal pain, and constipation.

Additional Health Effects:
Due to their large size (7-15 microns in diameter), Nextel(TM) Ceramic Fibers do not meet the definition of respirable as defined by WHO convention and ECHA. Because Nextel fibers are considered non-respirable, they are not expected to pose a cancer risk.

Additional Information:
This product, when used under reasonable conditions and in accordance with the directions for use, should not present a health hazard. However, use or processing of the product in a manner not in accordance with the product's directions for use may affect the performance of the product and may present potential health and safety hazards.

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	Ingestion		No data available; calculated ATE >5,000 mg/kg
Organic Sizing	Dermal	Rabbit	LD50 > 20,000 mg/kg
Organic Sizing	Ingestion	Rat	LD50 32,770 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Overall product	In vitro data	No significant irritation
Aluminoborosilicate Fibers	In vitro data	No significant irritation
Organic Sizing	Rabbit	Minimal irritation

Serious Eye Damage/Irritation

Name	Species	Value
Organic Sizing	Rabbit	Mild irritant

Skin Sensitization

Name	Species	Value
Organic Sizing	Guinea pig	Not classified

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
Organic Sizing	In Vitro	Not mutagenic
Organic Sizing	In vivo	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
Organic Sizing	Ingestion	Rat	Not carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
Organic Sizing	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,125 mg/kg/day	during gestation
Organic Sizing	Ingestion	Not classified for male reproduction	Rat	NOAEL 5699 +/- 1341 mg/kg/day	5 days
Organic Sizing	Not Specified	Not classified for reproduction and/or development		NOEL N/A	
Organic Sizing	Ingestion	Not classified for development	Mouse	NOAEL 562 mg/animal/day	during gestation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Organic Sizing	Inhalation	respiratory irritation	Not classified	Rat	NOAEL 1.008 mg/l	2 weeks

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Organic Sizing	Inhalation	respiratory system	Not classified	Rat	NOAEL 1.008 mg/l	2 weeks
Organic Sizing	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 5,640 mg/kg/day	13 weeks
Organic Sizing	Ingestion	heart	Not classified	Rat	NOAEL 5,640 mg/kg/day	13 weeks
Organic Sizing	Ingestion	endocrine system	Not classified	Rat	NOAEL 5,640 mg/kg/day	13 weeks
Organic Sizing	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 5,640 mg/kg/day	13 weeks
Organic Sizing	Ingestion	liver	Not classified	Rat	NOAEL 5,640 mg/kg/day	13 weeks
Organic Sizing	Ingestion	nervous system	Not classified	Rat	NOAEL 5,640 mg/kg/day	13 weeks

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.

Prior to disposal, consult all applicable authorities and regulations to insure proper classification. Dispose of waste product in a permitted industrial waste facility. If no other disposal options are available, waste product may be placed in a landfill properly designed for industrial waste.

EPA Hazardous Waste Number (RCRA): Not regulated

SECTION 14: Transport Information

For Transport Information, please visit http://3M.com/Transportinfo or call 1-800-364-3577 or 651-737-6501.

SECTION 15: Regulatory information

15.1. US Federal Regulations
Contact 3M for more information.

EPCRA 311/312 Hazard Classifications:

Physical Hazards
Not Applicable.

Health Hazards
Not Applicable.

15.2. State Regulations
Contact 3M for more information.

15.3. Chemical Inventories
This product is an article as defined by TSCA regulations, and is exempt from TSCA Inventory listing requirements.
Contact 3M for more information.

15.4. International Regulations
Contact 3M 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: 0 **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: 0 **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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