Safety Data Sheet

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SECTION 1: Identification

1.1. Product identifier
3M(TM)Fire Barrier Putty Sleeves

Product Identification Numbers
98-0400-5594-3, 98-0400-5596-8, 98-0400-5597-6
7000145572, 7000145571, 7000145570

1.2. Recommended use and restrictions on use

Recommended use
Passive fire protection in industrial applications

1.3. Supplier's details

MANUFACTURER:	3M
DIVISION:	Industrial Specialties 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
Serious Eye Damage/Irritation: Category 2A.
Skin Sensitizer: Category 1.
Germ Cell Mutagenicity: Category 2.
Carcinogenicity: Category 2.
Reproductive Toxicity: Category 2.
Specific Target Organ Toxicity (repeated exposure): Category 1.

2.2. Label elements
Signal word
Danger

Symbols
Exclamation mark |Health Hazard |

Pictograms

Hazard Statements

Causes serious eye irritation.
May cause an allergic skin reaction.
Suspected of causing genetic defects.
Suspected of causing cancer.
Suspected of damaging fertility or the unborn child.

Causes damage to organs through prolonged or repeated exposure: kidney/urinary tract.

Precautionary statements
General:
Keep out of reach of children.

Prevention:
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Do not breathe vapors.
Wash exposed skin thoroughly after handling.
Do not eat, drink or smoke when using this product.
Contaminated work clothing should not be allowed out of the workplace.
Wear protective gloves and eye protection.

Response:
IF ON SKIN: Wash with plenty of soap and water.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF exposed or concerned: Get medical attention.
Get medical attention if you feel unwell.
If eye irritation persists or if skin irritation or rash occurs: Get medical attention.
Take off contaminated clothing and wash it before reuse.

Storage:
Store locked up.

Disposal:
Dispose of contents and container in accordance with applicable local, regional, national, and international regulations.

5% of the mixture consists of ingredients of unknown acute oral toxicity.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
Zinc Borate 2335	138265-88-0	10 - 30 Trade Secret *
Petrolatum	8009-03-8	10 - 20
Polyisobutylene	9003-27-4	10 - 20
Styrene-Butadiene Polymer	9003-55-8	10 - 20

Water	7732-18-5	10 - 15
Melamine Phosphate	41583-09-9	5 - 10 Trade Secret *
Oxide Glass Chemicals	65997-17-3	1 - 10
Sodium Silicate	1344-09-8	3 - 7 Trade Secret *
Butadiene-Styrene-Meta-Divinylbenzene Polymer	26471-45-4	1 - 5
Alpha-Methylstyrene-Isoamylene-Piperylene Polymer	62258-49-5	< 3
Bisphenol A Diglycidyl Ether-Bisphenol A Copolymer	25036-25-3	< 3
Fatty Acids, C14-18 and C16-C18-Unsatd.	67701-06-8	< 3
Regenerated Cellulose	68442-85-3	< 3
Synthetic amorphous silica, fumed, crystalline-free	112945-52-5	< 3
Rayon Fiber	None	< 3
Phenol-Formaldehyde Polymer Glycidyl Ether	28064-14-4	0.1 - 1 Trade Secret *

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

Skin Contact:
Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

Eye Contact:
Immediately flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. Get medical attention.

If Swallowed:
Rinse mouth. If you feel unwell, get medical attention.

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

Allergic skin reaction (redness, swelling, blistering, and itching). Target organ effects following prolonged or repeated exposure. See Section 11 for additional details.

4.3. Indication of any immediate medical attention and special treatment required
Not applicable

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media
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.

Hazardous Decomposition or By-Products

Substance	Condition
Aldehydes	During Combustion
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion
Hydrogen Chloride	During Combustion

5.3. Special protective actions for fire-fighters
Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Evacuate area. Ventilate the area with fresh air. Use personal protective equipment based on the results of an exposure assessment. Refer to Section 8 for PPE recommendations. If anticipated exposure resulting from an accidental release exceeds the protective capabilities of the PPE listed in Section 8, or are unknown, select PPE that offers an appropriate level of protection. Consider the physical and chemical hazards of the material when doing so. Examples of PPE ensembles for emergency response could include wearing bunker gear for a release of flammable material; wearing chemical protective clothing if the spilled material is a corrosive, a sensitizer, a significant dermal irritant, or can be absorbed through the skin; or donning a positive pressure supplied-air respirator for chemicals with inhalation hazards. For information regarding physical and health hazards, refer to sections 2 and 11 of the SDS.

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. 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 in accordance with applicable local/regional/national/international regulations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Keep out of reach of children. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse. Use personal protective equipment (gloves, respirators, etc.) as required.

7.2. Conditions for safe storage including any incompatibilities
No special storage requirements.

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
Silica: Amorphous, including natural diatomaceous earth	112945-52-5	OSHA	TWA:20 millions of particles/cu. ft.;TWA concentration:0.8 mg/m3	
Borate compounds, inorganic, inhalable fraction	138265-88-0	ACGIH	TWA(inhalable fraction):2 mg/m3;STEL(inhalable fraction):6 mg/m3	A4: Not class. as human carcin
Inert or Nuisance Dust, Respirable fraction	65997-17-3	OSHA	TWA(as total dust):50 millions of particles/cu. ft.(15 mg/m3);TWA(respirable fraction):15 millions of	

			particles/cu. ft.(5 mg/m3)	
Oxide Glass Chemicals	65997-17-3	Manufacturer determined	TWA(as non-fibrous, respirable)(8 hours):3 mg/m3;TWA(as non-fibrous, inhalable fraction)(8 hours):10 mg/m3	
Particles (insoluble or poorly soluble) not otherwise specified, inhalable particles	65997-17-3	ACGIH	TWA(inhalable particulates):10 mg/m3	
Particles (insoluble or poorly soluble) not otherwise specified, respirable particles	65997-17-3	ACGIH	TWA(respirable particles):3 mg/m3	
Mineral oil, excluding metal working fluids, pure, highly and severely refined, inhalable fraction	8009-03-8	ACGIH	TWA(inhalable fraction):5 mg/m3	A4: Not class. as human carcin

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
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:
Safety Glasses with side shields
Indirect Vented Goggles

Skin/hand protection
Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing. Note: Nitrile gloves may be worn over polymer laminate gloves to improve dexterity.

Gloves made from the following material(s) are recommended: Polymer laminate

If this product is used in a manner that presents a higher potential for exposure (e.g., spraying, high splash potential, etc.), then use of a protective apron may be necessary. See recommended glove material(s) for determining appropriate apron material(s). If a glove material is not available as an apron, polymer laminate is a suitable option.

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
Half facepiece or full facepiece supplied-air respirator

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

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Solid
Specific Physical Form:	Putty
Color	Red
Odor	Odorless
Odor threshold	*No Data Available*
pH	*No Data Available*
Melting point/Freezing point	*Not Applicable*
Boiling point/Initial boiling point/Boiling range	*Not Applicable*
Flash Point	Flash point > 93 °C (200 °F)
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	1.25 g/cm3
Relative Density	1.25 [*Ref Std:*WATER=1]
Water solubility	*No Data Available*
Solubility- non-water	*No Data Available*
Partition coefficient: n-octanol/ water	*No Data Available*
Autoignition temperature	*Not Applicable*
Decomposition temperature	*No Data Available*
Kinematic Viscosity	*No Data Available*
Volatile Organic Compounds	< 1 % weight
Percent volatile	*No Data Available*
VOC Less H2O & Exempt Solvents	< 1 g/l
Molecular weight	*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
None known.	

Refer to section 5.2 for hazardous decomposition products during combustion.

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

Skin Contact:
Mild Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, and dryness. Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

Eye Contact:
Severe Eye Irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

Ingestion:
Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

May cause additional health effects (see below).

Additional Health Effects:

Prolonged or repeated exposure may cause target organ effects:
Kidney/Bladder Effects: Signs/symptoms may include changes in urine production, abdominal or lower back pain, increased protein in urine, increased blood urea nitrogen (BUN), blood in urine, and painful urination.

Reproductive/Developmental Toxicity:
Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

Genotoxicity:
Genotoxicity and Mutagenicity: May interact with genetic material and possibly alter gene expression.

Carcinogenicity:
Contains a chemical or chemicals which can cause cancer.

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
Zinc Borate 2335	Dermal	Rabbit	LD50 > 5,000 mg/kg
Zinc Borate 2335	Inhalation-Dust/Mist	Rat	LC50 > 4.95 mg/l
Zinc Borate 2335	Ingestion	Rat	LD50 > 5,000 mg/kg
Petrolatum	Dermal	similar compounds	LD50 > 5,000 mg/kg
Petrolatum	Ingestion	similar compounds	LD50 > 5,000 mg/kg
Styrene-Butadiene Polymer	Dermal	Rabbit	LD50 > 2,000 mg/kg
Styrene-Butadiene Polymer	Ingestion	Rat	LD50 > 5,000 mg/kg
Polyisobutylene	Dermal		LD50 estimated to be > 5,000 mg/kg
Polyisobutylene	Ingestion	Rat	LD50 > 2,000 mg/kg
Melamine Phosphate	Dermal	Professional judgement	LD50 estimated to be > 5,000 mg/kg
Melamine Phosphate	Ingestion	Rat	LD50 > 2,000 mg/kg
Melamine Phosphate	Inhalation-Dust/Mist (4 hours)	similar compounds	LC50 > 5.19 mg/l
Sodium Silicate	Dermal	Rabbit	LD50 > 4,640 mg/kg
Sodium Silicate	Ingestion	Rat	LD50 500 mg/kg
Oxide Glass Chemicals	Dermal		LD50 estimated to be > 5,000 mg/kg
Oxide Glass Chemicals	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
Butadiene-Styrene-Meta-Divinylbenzene Polymer	Dermal		LD50 estimated to be > 5,000 mg/kg
Butadiene-Styrene-Meta-Divinylbenzene Polymer	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
Synthetic amorphous silica, fumed, crystalline-free	Dermal	Rabbit	LD50 > 5,000 mg/kg
Synthetic amorphous silica, fumed, crystalline-free	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l
Synthetic amorphous silica, fumed, crystalline-free	Ingestion	Rat	LD50 > 5,110 mg/kg
Bisphenol A Diglycidyl Ether-Bisphenol A Copolymer	Dermal	Rat	LD50 > 1,600 mg/kg
Bisphenol A Diglycidyl Ether-Bisphenol A Copolymer	Ingestion	Rat	LD50 > 1,000 mg/kg
Fatty Acids, C14-18 and C16-C18-Unsatd.	Ingestion	Rat	LD50 > 2,000 mg/kg
Fatty Acids, C14-18 and C16-C18-Unsatd.	Dermal	similar compounds	LD50 > 2,000 mg/kg
Phenol-Formaldehyde Polymer Glycidyl Ether	Dermal	Rabbit	LD50 > 6,000 mg/kg
Phenol-Formaldehyde Polymer Glycidyl Ether	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 1.7 mg/l
Phenol-Formaldehyde Polymer Glycidyl Ether	Ingestion	Rat	LD50 > 4,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Zinc Borate 2335	Rabbit	No significant irritation
Petrolatum	similar compounds	No significant irritation
Styrene-Butadiene Polymer	Professio	No significant irritation

	nal judgement	
Polyisobutylene	Rabbit	No significant irritation
Melamine Phosphate	In vitro data	No significant irritation
Sodium Silicate	Rabbit	Corrosive
Oxide Glass Chemicals	Professional judgement	No significant irritation
Butadiene-Styrene-Meta-Divinylbenzene Polymer	Professional judgement	Minimal irritation
Synthetic amorphous silica, fumed, crystalline-free	Rabbit	No significant irritation
Alpha-Methylstyrene-Isoamylene-Piperylene Polymer	Rabbit	No significant irritation
Bisphenol A Diglycidyl Ether-Bisphenol A Copolymer	Rabbit	No significant irritation
Fatty Acids, C14-18 and C16-C18-Unsatd.	similar compounds	No significant irritation
Phenol-Formaldehyde Polymer Glycidyl Ether	Rabbit	Minimal irritation

Serious Eye Damage/Irritation

Name	Species	Value
Zinc Borate 2335	Rabbit	Severe irritant
Petrolatum	similar compounds	No significant irritation
Polyisobutylene	Rabbit	No significant irritation
Melamine Phosphate	Rabbit	Mild irritant
Sodium Silicate	In vitro data	Corrosive
Oxide Glass Chemicals	Professional judgement	No significant irritation
Synthetic amorphous silica, fumed, crystalline-free	Rabbit	No significant irritation
Bisphenol A Diglycidyl Ether-Bisphenol A Copolymer	Rabbit	Mild irritant
Fatty Acids, C14-18 and C16-C18-Unsatd.	similar compounds	Mild irritant
Phenol-Formaldehyde Polymer Glycidyl Ether	Rabbit	Mild irritant

Skin Sensitization

Name	Species	Value
Zinc Borate 2335	Guinea pig	Not classified
Petrolatum	Guinea pig	Not classified
Melamine Phosphate	similar compounds	Not classified
Sodium Silicate	Mouse	Not classified
Synthetic amorphous silica, fumed, crystalline-free	Human and animal	Not classified
Alpha-Methylstyrene-Isoamylene-Piperylene Polymer	Guinea pig	Not classified
Bisphenol A Diglycidyl Ether-Bisphenol A Copolymer	Guinea pig	Not classified
Fatty Acids, C14-18 and C16-C18-Unsatd.	similar compounds	Not classified

Phenol-Formaldehyde Polymer Glycidyl Ether	Human and animal	Sensitizing

Respiratory Sensitization

Name	Species	Value
Bisphenol A Diglycidyl Ether-Bisphenol A Copolymer	Human	Not classified

Germ Cell Mutagenicity

Name	Route	Value
Zinc Borate 2335	In Vitro	Some positive data exist, but the data are not sufficient for classification
Zinc Borate 2335	In vivo	Mutagenic
Petrolatum	In Vitro	Not mutagenic
Melamine Phosphate	In Vitro	Not mutagenic
Sodium Silicate	In Vitro	Not mutagenic
Sodium Silicate	In vivo	Not mutagenic
Oxide Glass Chemicals	In Vitro	Some positive data exist, but the data are not sufficient for classification
Synthetic amorphous silica, fumed, crystalline-free	In Vitro	Not mutagenic
Bisphenol A Diglycidyl Ether-Bisphenol A Copolymer	In vivo	Not mutagenic
Bisphenol A Diglycidyl Ether-Bisphenol A Copolymer	In Vitro	Some positive data exist, but the data are not sufficient for classification
Fatty Acids, C14-18 and C16-C18-Unsatd.	In Vitro	Not mutagenic
Phenol-Formaldehyde Polymer Glycidyl Ether	In Vitro	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
Petrolatum	Dermal	Mouse	Not carcinogenic
Petrolatum	Ingestion	Rat	Not carcinogenic
Melamine Phosphate	Ingestion	similar compounds	Carcinogenic
Oxide Glass Chemicals	Inhalation	Multiple animal species	Some positive data exist, but the data are not sufficient for classification
Synthetic amorphous silica, fumed, crystalline-free	Not Specified	Mouse	Some positive data exist, but the data are not sufficient for classification
Bisphenol A Diglycidyl Ether-Bisphenol A Copolymer	Dermal	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
Zinc Borate 2335	Ingestion	Toxic to male reproduction	Rat	NOAEL 100 mg/kg/day	92 days
Zinc Borate 2335	Ingestion	Toxic to development	Rat	LOAEL 100 mg/kg/day	during gestation
Melamine Phosphate	Ingestion	Toxic to male reproduction	similar compounds	NOAEL Not available	2 generation
Sodium Silicate	Ingestion	Not classified for development	Mouse	NOAEL 200 mg/kg/day	during gestation
Synthetic amorphous silica, fumed, crystalline-free	Ingestion	Not classified for female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
Synthetic amorphous silica, fumed, crystalline-free	Ingestion	Not classified for male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation
Synthetic amorphous silica, fumed,	Ingestion	Not classified for development	Rat	NOAEL 1,350	during

crystalline-free				mg/kg/day	organogenesis
Bisphenol A Diglycidyl Ether-Bisphenol A Copolymer	Ingestion	Not classified for female reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
Bisphenol A Diglycidyl Ether-Bisphenol A Copolymer	Ingestion	Not classified for male reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
Bisphenol A Diglycidyl Ether-Bisphenol A Copolymer	Dermal	Not classified for development	Rabbit	NOAEL 300 mg/kg/day	during organogenesis
Bisphenol A Diglycidyl Ether-Bisphenol A Copolymer	Ingestion	Not classified for development	Rat	NOAEL 750 mg/kg/day	2 generation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Zinc Borate 2335	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
Sodium Silicate	Inhalation	respiratory irritation	May cause respiratory irritation	official classification	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Zinc Borate 2335	Inhalation	immune system	Not classified	Rat	NOAEL 0.15 mg/l	2 weeks
Zinc Borate 2335	Inhalation	respiratory system	Not classified	Rat	NOAEL 0.15 mg/l	2 weeks
Zinc Borate 2335	Inhalation	heart	Not classified	Rat	NOAEL 0.15 mg/l	2 weeks
Zinc Borate 2335	Inhalation	endocrine system	Not classified	Rat	NOAEL 0.15 mg/l	2 weeks
Zinc Borate 2335	Inhalation	hematopoietic system	Not classified	Rat	NOAEL 0.15 mg/l	2 weeks
Zinc Borate 2335	Inhalation	liver	Not classified	Rat	NOAEL 0.15 mg/l	2 weeks
Zinc Borate 2335	Inhalation	nervous system	Not classified	Rat	NOAEL 0.15 mg/l	2 weeks
Zinc Borate 2335	Inhalation	kidney and/or bladder	Not classified	Rat	NOAEL 0.15 mg/l	2 weeks
Zinc Borate 2335	Ingestion	endocrine system	Not classified	Rat	NOAEL 375 mg/kg/day	92 days
Zinc Borate 2335	Ingestion	liver	Not classified	Rat	NOAEL 375 mg/kg/day	92 days
Zinc Borate 2335	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 375 mg/kg/day	92 days
Zinc Borate 2335	Ingestion	heart	Not classified	Rat	NOAEL 375 mg/kg/day	92 days
Zinc Borate 2335	Ingestion	skin	Not classified	Rat	NOAEL 375 mg/kg/day	92 days
Zinc Borate 2335	Ingestion	bone, teeth, nails, and/or hair	Not classified	Rat	NOAEL 375 mg/kg/day	92 days
Zinc Borate 2335	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 375 mg/kg/day	92 days
Zinc Borate 2335	Ingestion	immune system	Not classified	Rat	NOAEL 375 mg/kg/day	92 days
Zinc Borate 2335	Ingestion	nervous system	Not classified	Rat	NOAEL 375 mg/kg/day	92 days
Zinc Borate 2335	Ingestion	eyes	Not classified	Rat	NOAEL 375 mg/kg/day	92 days
Zinc Borate 2335	Ingestion	respiratory system	Not classified	Rat	NOAEL 375 mg/kg/day	92 days

Zinc Borate 2335	Ingestion	vascular system	Not classified	Rat	NOAEL 375 mg/kg/day	92 days
Petrolatum	Ingestion	heart	Not classified	Rat	NOAEL 5,000 mg/kg/day	2 years
Petrolatum	Ingestion	skin	Not classified	Rat	NOAEL 5,000 mg/kg/day	2 years
Petrolatum	Ingestion	endocrine system	Not classified	Rat	NOAEL 5,000 mg/kg/day	2 years
Petrolatum	Ingestion	gastrointestinal tract	Not classified	Rat	NOAEL 5,000 mg/kg/day	2 years
Petrolatum	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 5,000 mg/kg/day	2 years
Petrolatum	Ingestion	liver	Not classified	Rat	NOAEL 5,000 mg/kg/day	2 years
Petrolatum	Ingestion	immune system	Not classified	Rat	NOAEL 5,000 mg/kg/day	2 years
Petrolatum	Ingestion	muscles	Not classified	Rat	NOAEL 5,000 mg/kg/day	2 years
Petrolatum	Ingestion	nervous system	Not classified	Rat	NOAEL 5,000 mg/kg/day	2 years
Petrolatum	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 5,000 mg/kg/day	2 years
Petrolatum	Ingestion	respiratory system	Not classified	Rat	NOAEL 5,000 mg/kg/day	2 years
Melamine Phosphate	Ingestion	kidney and/or bladder	Causes damage to organs through prolonged or repeated exposure	similar compoun ds	NOAEL Not available	90 days
Sodium Silicate	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Dog	LOAEL 2,400 mg/kg/day	4 weeks
Sodium Silicate	Ingestion	endocrine system	Not classified	Rat	NOAEL 804 mg/kg/day	3 months
Sodium Silicate	Ingestion	blood	Not classified	Rat	NOAEL 804 mg/kg/day	3 months
Sodium Silicate	Ingestion	heart	Not classified	Rat	NOAEL 1,259 mg/kg/day	8 weeks
Sodium Silicate	Ingestion	liver	Not classified	Rat	NOAEL 1,259 mg/kg/day	8 weeks
Oxide Glass Chemicals	Inhalation	respiratory system	Not classified	Human	NOAEL not available	occupational exposure
Synthetic amorphous silica, fumed, crystalline-free	Inhalation	respiratory system	Not classified	Human	NOAEL Not available	occupational exposure
Synthetic amorphous silica, fumed, crystalline-free	Inhalation	silicosis	Not classified	Human	NOAEL Not available	occupational exposure
Bisphenol A Diglycidyl Ether-Bisphenol A Copolymer	Dermal	liver	Not classified	Rat	NOAEL 1,000 mg/kg/day	2 years
Bisphenol A Diglycidyl Ether-Bisphenol A Copolymer	Dermal	nervous system	Not classified	Rat	NOAEL 1,000 mg/kg/day	13 weeks
Bisphenol A Diglycidyl Ether-Bisphenol A	Ingestion	auditory system	Not classified	Rat	NOAEL 1,000	28 days

Copolymer					mg/kg/day	
Bisphenol A Diglycidyl Ether-Bisphenol A Copolymer	Ingestion	heart	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Bisphenol A Diglycidyl Ether-Bisphenol A Copolymer	Ingestion	endocrine system	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Bisphenol A Diglycidyl Ether-Bisphenol A Copolymer	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Bisphenol A Diglycidyl Ether-Bisphenol A Copolymer	Ingestion	liver	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Bisphenol A Diglycidyl Ether-Bisphenol A Copolymer	Ingestion	eyes	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Bisphenol A Diglycidyl Ether-Bisphenol A Copolymer	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days

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. As a disposal alternative, incinerate in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. Combustion products will include halogen acid (HCl/HF/HBr). Facility must be capable of handling halogenated materials. 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.

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
Carcinogenicity
Germ cell mutagenicity
Reproductive toxicity
Respiratory or Skin Sensitization
Serious eye damage or eye irritation
Specific target organ toxicity (single or repeated exposure)

Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):

Ingredient	C.A.S. No	% by Wt
Zinc Borate 2335	138265-88-0	Trade Secret 10 - 30

15.2. State Regulations
Contact 3M for more information.

15.3. Chemical Inventories
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 product are in compliance with the chemical notification requirements of TSCA. All required components of this product are listed on the active portion of the TSCA Inventory.

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: 2 **Flammability:** 1 **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.

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