



Safety Data Sheet

Copyright, 2016, 3M Company.

All rights reserved. Copying and/or downloading of this information for the purpose of properly utilizing 3M products is allowed provided that: (1) the information is copied in full with no changes unless prior written agreement is obtained from 3M, and (2) neither the copy nor the original is resold or otherwise distributed with the intention of earning a profit thereon.

Document Group:	30-3757-9	Version Number:	2.01
Issue Date:	05/26/16	Supersedes Date:	02/11/15

SECTION 1: Identification

1.1. Product identifier

3M™ Aerospace Sealant AC-350 B-4 PMF

Product Identification Numbers

70-0052-0271-1, 70-0052-0274-5, 70-0052-0280-2, 70-0052-0627-4, 70-0052-0721-5, 70-0052-0893-2, 70-0052-0894-0, 70-0052-0904-7

1.2. Recommended use and restrictions on use

Recommended use

For industrial or professional use only., Sealant

1.3. Supplier's details

MANUFACTURER:	3M
DIVISION:	Aerospace and Commercial Transportation 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

Skin Sensitizer: Category 1.

Specific Target Organ Toxicity (repeated exposure): Category 1.

2.2. Label elements

Signal word

Danger

Symbols

Exclamation mark | Health Hazard |

Pictograms

**Hazard Statements**

May cause an allergic skin reaction.

Causes damage to organs through prolonged or repeated exposure:

nervous system |

respiratory system |

Precautionary Statements**Prevention:**

Do not breathe dust/fume/gas/mist/vapors/spray.

Wear protective gloves.

Do not eat, drink or smoke when using this product.

Wash thoroughly after handling.

Contaminated work clothing must not be allowed out of the workplace.

Response:

IF ON SKIN: Wash with plenty of soap and water.

If skin irritation or rash occurs: Get medical advice/attention.

Wash contaminated clothing before reuse.

Get medical advice/attention if you feel unwell.

Disposal:

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

2.3. Hazards not otherwise classified

None.

12% of the mixture consists of ingredients of unknown acute dermal toxicity.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
POLYSULFIDE RUBBER	68611-50-7	55 - 65
CALCIUM CARBONATE	471-34-1	10 - 20
OXIDIZED POLYETHYLENE	68441-17-8	10 - 15
HYDROGENATED TERPHENYL	61788-32-7	1 - 5 Trade Secret *
MANGANESE DIOXIDE	1313-13-9	1 - 5 Trade Secret *
AMORPHOUS SILICA	67762-90-7	0.5 - 3
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	2530-83-8	< 1 Trade Secret *
EPOXY RESIN	25085-99-8	0.1 - 1 Trade Secret *
TITANIUM DIOXIDE	13463-67-7	0.1 - 1 Trade Secret *
PHENOL-FORMALDEHYDE POLYMER	9003-35-4	0.1 - 0.5 Trade Secret *
TERPHENYL	26140-60-3	< 0.5 Trade Secret *
SODIUM HYDROXIDE	1310-73-2	< 0.2 Trade Secret *
ZEOLITES	1318-02-1	<= 0.2
FERBAM	14484-64-1	< 0.05 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:

No need for first aid is anticipated.

If Swallowed:

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

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

In case of fire: Use a fire fighting agent suitable for ordinary combustible material such as water or foam to extinguish.

5.2. Special hazards arising from the substance or mixture

None inherent in this product.

Hazardous Decomposition or By-Products

Substance

Formaldehyde
Carbon monoxide
Carbon dioxide
Oxides of Nitrogen
Oxides of Sulfur

Condition

During Combustion
During Combustion
During Combustion
During Combustion
During Combustion

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

Evacuate area. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and SDS. Seal the container. Dispose of collected material as soon as possible.

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

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.

7.2. Conditions for safe storage including any incompatibilities

Store away from acids. Store away from strong bases.

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
SODIUM HYDROXIDE	1310-73-2	CMRG	TWA:2 mg/m3	
SODIUM HYDROXIDE	1310-73-2	OSHA	TWA:2 mg/m3	
SODIUM HYDROXIDE	1310-73-2	ACGIH	CEIL:2 mg/m3	
MANGANESE COMPOUNDS	1313-13-9	OSHA	CEIL(as Mn):5 mg/m3	
MANGANESE, INORGANIC COMPOUNDS	1313-13-9	ACGIH	TWA(as Mn, inhalable fraction):0.1 mg/m3;TWA(as Mn, respirable fraction):0.02 mg/m3	A4: Not class. as human carcin
Aluminum, insoluble compounds	1318-02-1	ACGIH	TWA(respirable fraction):1 mg/m3	A4: Not class. as human carcin
TITANIUM DIOXIDE	13463-67-7	OSHA	TWA(as total dust):15 mg/m3	
TITANIUM DIOXIDE	13463-67-7	CMRG	TWA(as respirable dust):5 mg/m3	
TITANIUM DIOXIDE	13463-67-7	ACGIH	TWA:10 mg/m3	A4: Not class. as human carcin
FERBAM	14484-64-1	OSHA	TWA(as total dust):15 mg/m3	
FERBAM	14484-64-1	ACGIH	TWA(inhalable fraction):5 mg/m3	A4: Not class. as human carcin
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	2530-83-8	CMRG	TWA:5 ppm	
TERPHENYL	26140-60-3	OSHA	CEIL:9 mg/m3(1 ppm)	
TERPHENYL	26140-60-3	ACGIH	CEIL:5 mg/m3	
Limestone	471-34-1	OSHA	TWA(as total dust):15 mg/m3;TWA(respirable	

			fraction):5 mg/m3	
CALCIUM CARBONATE	471-34-1	CMRG	TWA:10 mg/m3;STEL:20 mg/m3	
HYDROGENATED TERPHENYL	61788-32-7	ACGIH	TWA:0.5 ppm	
SILICA, AMORPHOUS	67762-90-7	OSHA	TWA concentration:0.8 mg/m3;TWA:20 millions of particles/cu. ft.	
AMORPHOUS SILICA	67762-90-7	CMRG	CEIL:5 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

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

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 (eg. spraying, high splash potential etc.), then use of protective coveralls may be necessary. Select and use body protection to prevent contact based on the results of an exposure assessment. The following protective clothing material(s) are recommended: Apron - polymer laminate

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 organic vapors and particulates

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

General Physical Form:

Liquid

Odor, Color, Grade:

Sulphurous odor; dark gray paste

Odor threshold	No Data Available
pH	Not Applicable
Melting point	Not Applicable
Boiling Point	No Data Available
Flash Point	>=200 °F [Test Method: Closed Cup]
Evaporation rate	No Data Available
Flammability (solid, gas)	Not Applicable
Flammable Limits(LEL)	No Data Available
Flammable Limits(UEL)	No Data Available
Vapor Pressure	No Data Available
Vapor Density	No Data Available
Specific Gravity	1.35 [Ref Std: WATER=1]
Solubility in Water	Nil
Solubility- non-water	No Data Available
Partition coefficient: n-octanol/ water	No Data Available
Autoignition temperature	No Data Available
Decomposition temperature	No Data Available
Viscosity	No Data Available
Volatile Organic Compounds	2.6 g/l [Test Method: calculated SCAQMD rule 443.1]
VOC Less H2O & Exempt Solvents	2.7 g/l [Test Method: calculated SCAQMD rule 443.1]

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

Reducing agents

Strong bases

Strong acids

10.6. Hazardous decomposition products

Substance

None known.

Condition

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.

May cause additional health effects (see below).

Skin Contact:

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

Eye Contact:

Contact with the eyes during product use is not expected to result in significant irritation.

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:

Neurological Effects: Signs/symptoms may include personality changes, lack of coordination, sensory loss, tingling or numbness of the extremities, weakness, tremors, and/or changes in blood pressure and heart rate.

Respiratory Effects: Signs/symptoms may include cough, shortness of breath, chest tightness, wheezing, increased heart rate, bluish colored skin (cyanosis), sputum production, changes in lung function tests, and/or respiratory failure.

Carcinogenicity:

<u>Ingredient</u>	<u>CAS No.</u>	<u>Class Description</u>	<u>Regulation</u>
TITANIUM DIOXIDE	13463-67-7	Grp. 2B: Possible human carc.	International Agency for Research on 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

<u>Name</u>	<u>Route</u>	<u>Species</u>	<u>Value</u>
Overall product	Dermal		No data available; calculated ATE > 5,000 mg/kg
Overall product	Ingestion		No data available; calculated ATE > 5,000 mg/kg
POLYSULFIDE RUBBER	Dermal	Rat	LD50 > 7,800 mg/kg
POLYSULFIDE RUBBER	Ingestion	Rat	LD50 > 5,000 mg/kg
CALCIUM CARBONATE	Dermal	Rat	LD50 > 2,000 mg/kg
CALCIUM CARBONATE	Inhalation-Dust/Mist (4 hours)	Rat	LC50 3 mg/l
CALCIUM CARBONATE	Ingestion	Rat	LD50 6,450 mg/kg
OXIDIZED POLYETHYLENE	Ingestion	Rat	LD50 > 2,500 mg/kg
MANGANESE DIOXIDE	Dermal	Rat	LD50 2,000 mg/kg
MANGANESE DIOXIDE	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 1.5 mg/l

MANGANESE DIOXIDE	Ingestion	Rat	LD50 > 2,197 mg/kg
HYDROGENATED TERPHENYL	Dermal	Rabbit	LD50 6,800 mg/kg
HYDROGENATED TERPHENYL	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 11.1 mg/l
HYDROGENATED TERPHENYL	Ingestion	Rat	LD50 > 10,000 mg/kg
AMORPHOUS SILICA	Dermal	Rabbit	LD50 > 5,000 mg/kg
AMORPHOUS SILICA	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l
AMORPHOUS SILICA	Ingestion	Rat	LD50 > 5,110 mg/kg
TITANIUM DIOXIDE	Dermal	Rabbit	LD50 > 10,000 mg/kg
TITANIUM DIOXIDE	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 6.82 mg/l
TITANIUM DIOXIDE	Ingestion	Rat	LD50 > 10,000 mg/kg
3-(TRIMETHOXSILYL)PROPYL GLYCIDYL ETHER	Dermal	Rabbit	LD50 4,000 mg/kg
3-(TRIMETHOXSILYL)PROPYL GLYCIDYL ETHER	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5.3 mg/l
3-(TRIMETHOXSILYL)PROPYL GLYCIDYL ETHER	Ingestion	Rat	LD50 7,010 mg/kg
TERPHENYL	Dermal	Rabbit	LD50 > 5,000 mg/kg
TERPHENYL	Inhalation-Dust/Mist (4 hours)	Rat	LD50 > 3.8 mg/l
TERPHENYL	Ingestion	Rat	LD50 2,304 mg/kg
EPOXY RESIN	Dermal	Rat	LD50 > 1,600 mg/kg
EPOXY RESIN	Ingestion	Rat	LD50 > 1,000 mg/kg
PHENOL-FORMALDEHYDE POLYMER	Dermal	Rat	LD50 > 2,000 mg/kg
PHENOL-FORMALDEHYDE POLYMER	Ingestion	Rat	LD50 > 2,900 mg/kg
ZEOLITES	Dermal	Rabbit	LD50 > 2,000 mg/kg
ZEOLITES	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 4.57 mg/l
ZEOLITES	Ingestion	Rat	LD50 > 5,000 mg/kg
FERBAM	Dermal	Rabbit	LD50 > 4,000 mg/kg
FERBAM	Ingestion	Rat	LD50 1,130 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
POLYSULFIDE RUBBER	Rabbit	No significant irritation
CALCIUM CARBONATE	Rabbit	No significant irritation
OXIDIZED POLYETHYLENE	Professional judgement	No significant irritation
HYDROGENATED TERPHENYL	Rabbit	No significant irritation
AMORPHOUS SILICA	Rabbit	No significant irritation
TITANIUM DIOXIDE	Rabbit	No significant irritation
3-(TRIMETHOXSILYL)PROPYL GLYCIDYL ETHER	Rabbit	Mild irritant
TERPHENYL	Rabbit	No significant irritation
EPOXY RESIN	Rabbit	Mild irritant
PHENOL-FORMALDEHYDE POLYMER	Human and animal	Mild irritant
ZEOLITES	Rabbit	No significant irritation
SODIUM HYDROXIDE	Rabbit	Corrosive
FERBAM	Rabbit	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
POLYSULFIDE RUBBER	Rabbit	No significant irritation

CALCIUM CARBONATE	Rabbit	No significant irritation
OXIDIZED POLYETHYLENE	Professional judgement	No significant irritation
HYDROGENATED TERPHENYL	Rabbit	No significant irritation
AMORPHOUS SILICA	Rabbit	No significant irritation
TITANIUM DIOXIDE	Rabbit	No significant irritation
3-(TRIMETHOXY-SILYL)PROPYL GLYCIDYL ETHER	Rabbit	Corrosive
TERPHENYL	Rabbit	No significant irritation
EPOXY RESIN	Rabbit	Moderate irritant
PHENOL-FORMALDEHYDE POLYMER	Human and animal	Moderate irritant
ZEOLITES	Rabbit	Mild irritant
SODIUM HYDROXIDE	Rabbit	Corrosive
FERBAM	Rabbit	Severe irritant

Skin Sensitization

Name	Species	Value
POLYSULFIDE RUBBER		Not sensitizing
HYDROGENATED TERPHENYL	Human	Not sensitizing
AMORPHOUS SILICA	Human and animal	Not sensitizing
TITANIUM DIOXIDE	Human and animal	Not sensitizing
3-(TRIMETHOXY-SILYL)PROPYL GLYCIDYL ETHER	Guinea pig	Some positive data exist, but the data are not sufficient for classification
EPOXY RESIN	Human and animal	Sensitizing
PHENOL-FORMALDEHYDE POLYMER	Human and animal	Sensitizing
SODIUM HYDROXIDE	Human	Not sensitizing
FERBAM	Guinea pig	Not sensitizing

Respiratory Sensitization

Name	Species	Value
EPOXY RESIN	Human	Some positive data exist, but the data are not sufficient for classification
PHENOL-FORMALDEHYDE POLYMER	Human	Some positive data exist, but the data are not sufficient for classification

Germ Cell Mutagenicity

Name	Route	Value
HYDROGENATED TERPHENYL	In vivo	Not mutagenic
AMORPHOUS SILICA	In Vitro	Not mutagenic
TITANIUM DIOXIDE	In Vitro	Not mutagenic
TITANIUM DIOXIDE	In vivo	Not mutagenic
3-(TRIMETHOXY-SILYL)PROPYL GLYCIDYL ETHER	In vivo	Not mutagenic
3-(TRIMETHOXY-SILYL)PROPYL GLYCIDYL ETHER	In Vitro	Some positive data exist, but the data are not sufficient for classification
TERPHENYL	In Vitro	Not mutagenic
TERPHENYL	In vivo	Not mutagenic
EPOXY RESIN	In vivo	Not mutagenic
EPOXY RESIN	In Vitro	Some positive data exist, but the data are not sufficient for classification
SODIUM HYDROXIDE	In Vitro	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
AMORPHOUS SILICA	Not Specified	Mouse	Some positive data exist, but the data are not sufficient for classification
TITANIUM DIOXIDE	Ingestion	Multiple animal species	Not carcinogenic
TITANIUM DIOXIDE	Inhalation	Rat	Carcinogenic
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	Dermal	Mouse	Not carcinogenic
EPOXY RESIN	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
FERBAM	Ingestion	Rat	Not carcinogenic

Reproductive Toxicity**Reproductive and/or Developmental Effects**

Name	Route	Value	Species	Test Result	Exposure Duration
CALCIUM CARBONATE	Ingestion	Not toxic to development	Rat	NOAEL 625 mg/kg/day	premating & during gestation
HYDROGENATED TERPHENYL	Ingestion	Not toxic to female reproduction	Rat	NOAEL 81 mg/kg/day	2 generation
HYDROGENATED TERPHENYL	Ingestion	Not toxic to male reproduction	Rat	NOAEL 62 mg/kg/day	2 generation
HYDROGENATED TERPHENYL	Ingestion	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 500 mg/kg/day	2 generation
AMORPHOUS SILICA	Ingestion	Not toxic to female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
AMORPHOUS SILICA	Ingestion	Not toxic to male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation
AMORPHOUS SILICA	Ingestion	Not toxic to development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	Ingestion	Not toxic to female reproduction	Rat	NOAEL 1,000 mg/kg/day	1 generation
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	Ingestion	Not toxic to male reproduction	Rat	NOAEL 1,000 mg/kg/day	1 generation
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	Ingestion	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 3,000 mg/kg/day	during organogenesis
EPOXY RESIN	Ingestion	Not toxic to female reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
EPOXY RESIN	Ingestion	Not toxic to male reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
EPOXY RESIN	Dermal	Not toxic to development	Rabbit	NOAEL 300 mg/kg/day	during organogenesis
EPOXY RESIN	Ingestion	Not toxic to development	Rat	NOAEL 750 mg/kg/day	2 generation
FERBAM	Ingestion	Not toxic to female reproduction	Rat	NOAEL 25 mg/kg/day	3 generation
FERBAM	Ingestion	Not toxic to male reproduction	Rat	NOAEL 25 mg/kg/day	3 generation
FERBAM	Ingestion	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 11 mg/kg/day	during organogenesis

Lactation

Name	Route	Species	Value
FERBAM	Ingestion	Rat	Causes effects on or via lactation

Target Organ(s)**Specific Target Organ Toxicity - single exposure**

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
CALCIUM CARBONATE	Inhalation	respiratory system	All data are negative	Rat	NOAEL 0.812 mg/l	90 minutes
PHENOL-FORMALDEHYDE POLYMER	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human and animal	NOAEL Not available	
SODIUM HYDROXIDE	Inhalation	respiratory irritation	May cause respiratory irritation	Human	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
CALCIUM CARBONATE	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
HYDROGENATED TERPHENYL	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 0.5 mg/l	90 days
HYDROGENATED TERPHENYL	Ingestion	endocrine system blood liver kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 144 mg/kg/day	14 weeks
AMORPHOUS SILICA	Inhalation	respiratory system silicosis	All data are negative	Human	NOAEL Not available	occupational exposure
TITANIUM DIOXIDE	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 0.01 mg/l	2 years
TITANIUM DIOXIDE	Inhalation	pulmonary fibrosis	All data are negative	Human	NOAEL Not available	occupational exposure
3-(TRIMETHOXY-SILYL)PROPYL GLYCIDYL ETHER	Ingestion	heart endocrine system bone, teeth, nails, and/or hair hematopoietic system liver immune system nervous system kidney and/or bladder respiratory system	All data are negative	Rat	NOAEL 1,000 mg/kg/day	28 days
EPOXY RESIN	Dermal	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,000 mg/kg/day	2 years
EPOXY RESIN	Dermal	nervous system	All data are negative	Rat	NOAEL 1,000 mg/kg/day	13 weeks
EPOXY RESIN	Ingestion	auditory system heart endocrine system hematopoietic system liver eyes kidney and/or bladder	All data are negative	Rat	NOAEL 1,000 mg/kg/day	28 days
PHENOL-FORMALDEHYDE POLYMER	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	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 completely cured (or polymerized) material in a permitted industrial waste facility. As a disposal alternative, incinerate uncured product 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.

EPA Hazardous Waste Number (RCRA): D005 (Barium), D006 (Cadmium), D008 (Lead)

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.

311/312 Hazard Categories:

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

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

<u>Ingredient</u>	<u>C.A.S. No</u>	<u>% by Wt</u>
MANGANESE DIOXIDE (MANGANESE COMPOUNDS)	1313-13-9	1 - 5

15.2. State Regulations

Contact 3M for more information.

15.3. Chemical Inventories

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

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.

Document Group:	30-3757-9	Version Number:	2.01
Issue Date:	05/26/16	Supersedes Date:	02/11/15

DISCLAIMER: The information in this Safety Data Sheet (SDS) is believed to be correct as of the date issued. 3M MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR COURSE OF PERFORMANCE OR USAGE OF TRADE. User is responsible for determining whether the 3M product is fit for a particular purpose and suitable for user's method of use or application. Given the variety of factors that can affect the use and application of a 3M product, some of which are uniquely within the user's knowledge and control, it is essential that the user evaluate the 3M product to determine whether it is fit for a particular purpose and suitable for user's method of use or application.

3M provides information in electronic form as a service to its customers. Due to the remote possibility that electronic transfer may have resulted in errors, omissions or alterations in this information, 3M makes no representations as to its completeness or accuracy. In addition, information obtained from a database may not be as current as the information in the SDS available directly from 3M

3M USA SDSs are available at www.3M.com