



## Safety Data Sheet

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### SECTION 1: Identification

#### 1.1. Product identifier

3M™ Scotchkote™ Fusion Bonded Epoxy Rebar Coating 413, 413S and 413 Spray Grade

#### Product Identification Numbers

ID Number	UPC	ID Number	UPC
80-6116-1455-5		80-6116-1551-1	
80-6116-2838-1		80-6300-0092-7	
80-6300-0093-5		80-6300-0103-2	
80-6300-0154-5		80-6300-0155-2	
80-6300-0171-9			

7010350488, 7100040457, 7010401049, 7010319949, 7100178131

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

##### Recommended use

Coating, Fusion Bonded Epoxy Coating for Rebar

#### 1.3. Supplier's details

<b>MANUFACTURER:</b>	3M
<b>DIVISION:</b>	Electrical Markets Division
<b>ADDRESS:</b>	3M Center, St. Paul, MN 55144-1000, USA
<b>Telephone:</b>	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

Combustible Dust.

Serious Eye Damage/Irritation: Category 2A.

Skin Sensitizer: Category 1.

Reproductive Toxicity: Category 2.

Carcinogenicity: Category 2.

**2.2. Label elements****Signal word**

Warning

**Symbols**

Exclamation mark | Health Hazard |

**Pictograms****Hazard Statements**

May form combustible dust concentrations in air.

Causes serious eye irritation.

May cause an allergic skin reaction.

Suspected of damaging fertility or the unborn child.

Suspected of causing cancer.

**Precautionary Statements****Prevention:**

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Avoid breathing dust/fume/gas/mist/vapors/spray.

Wear eye/face protection.

Wear protective gloves.

Wash thoroughly after handling.

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

**Response:**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/attention.

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.

IF exposed or concerned: Get medical advice/attention.

**Storage:**

Store locked up.

**Disposal:**

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

4% of the mixture consists of ingredients of unknown acute oral toxicity.

4% of the mixture consists of ingredients of unknown acute dermal toxicity.

97% of the mixture consists of ingredients of unknown acute inhalation toxicity.

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

Ingredient	C.A.S. No.	% by Wt
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4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	25068-38-6	75 - 95 Trade Secret *
POLYMERIC ADDITIVE	Trade Secret*	1 - 5 Trade Secret *
EPOXY RESIN - AMINE CONDENSATE	68002-42-6	1 - 5 Trade Secret *
TITANIUM DIOXIDE	13463-67-7	1 - 5 Trade Secret *
4,4'-ISOPROPYLIDENEDIPHENOL	80-05-7	0.5 - 5 Trade Secret *
CHROMIUM OXIDE (CR2O3)	1308-38-9	0.5 - 1.5 Trade Secret *
SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE	112945-52-5	0.5 - 1.5 Trade Secret *
2-METHYLIMIDAZOLE	693-98-1	0.1 - 1 Trade Secret *
PHENOL-FORMALDEHYDE POLYMER	9003-35-4	< 0.5 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

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

Powdered material may form explosive dust-air mixture. Avoid fire fighting methods that would cause powders to become airborne.

### Hazardous Decomposition or By-Products

**Substance**

Aldehydes  
Carbon monoxide  
Carbon dioxide  
Hydrogen Chloride

**Condition**

During Combustion  
During Combustion  
During Combustion  
During Combustion

Oxides of Nitrogen  
Oxides of Phosphorus

During Combustion  
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. Eliminate all ignition sources if safe to do so. 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

Collect as much of the spilled material as possible. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Vacuum to avoid dusting. **WARNING!** A motor could be an ignition source and cause combustible dust in the spill area to burn or explode. 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

Avoid breathing of dust created by cutting, sanding, grinding or machining. Do not handle until all safety precautions have been read and understood. Avoid breathing 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. Dust clouds of this material in sufficient concentration in combination with an ignition source may be explosive. Dust deposits should not be allowed to accumulate on surfaces because of the potential for secondary explosions. Routine housekeeping should be instituted to ensure that combustible dusts do not accumulate on surfaces. Solids can generate static electricity charges when transferred and in mixing operations sufficient to be an ignition source. Evaluate the need for precautions, such as grounding and bonding, low energy transfer of material (e.g. low speed, short distance), or inert atmospheres.

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

Store away from heat.

## 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	112945-52-5	OSHA	TWA concentration:0.8 mg/m <sup>3</sup> ;TWA:20 millions of particles/cu. ft.	

CHROMIUM (III) COMPOUNDS	1308-38-9	ACGIH	TWA(as Cr(III), inhalable fraction):0.003 mg/m <sup>3</sup> ;TWA(as Cr):0.5 mg/m <sup>3</sup>	A4: Not class. as human carcin
CHROMIUM (III) COMPOUNDS	1308-38-9	OSHA	TWA(as Cr):0.5 mg/m <sup>3</sup>	
Chromium, insoluble salts	1308-38-9	OSHA	TWA(as Cr):1 mg/m <sup>3</sup>	
TITANIUM DIOXIDE	13463-67-7	ACGIH	TWA:10 mg/m <sup>3</sup>	A4: Not class. as human carcin
TITANIUM DIOXIDE	13463-67-7	OSHA	TWA(as total dust):15 mg/m <sup>3</sup>	

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

Provide ventilated enclosure for heat curing. Curing enclosures must be exhausted to outdoors or to a suitable emission control device. 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. Provide local exhaust at process emission sources to control exposure near the source and to prevent the escape of dust into the work area. It is recommended that all dust control equipment (such as local exhaust ventilation), process equipment, and material transport systems involved in handling of this product be evaluated for the need for explosion-protection safeguards. Recognized safeguards include explosion relief vents, explosion suppression systems, and oxygen deficient process environments. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment). Evaluate the need for electrically classified 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:

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 (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  
 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

<b>General Physical Form:</b>	Solid
<b>Specific Physical Form:</b>	Powder
<b>Odor, Color, Grade:</b>	Green Powder
<b>Odor threshold</b>	<i>No Data Available</i>
<b>pH</b>	<i>Not Applicable</i>
<b>Melting point</b>	<i>Not Applicable</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>No Data Available</i>
<b>Flammable Limits(UEL)</b>	<i>No Data Available</i>
<b>Vapor Pressure</b>	<i>Not Applicable</i>
<b>Vapor Density</b>	<i>Not Applicable</i>
<b>Density</b>	1.2 g/cm <sup>3</sup>
<b>Specific Gravity</b>	1.2 [Test Method:Tested per ASTM protocol] [Ref Std:WATER=1]
<b>Solubility in Water</b>	Nil
<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>No Data Available</i>
<b>Decomposition temperature</b>	<i>No Data Available</i>
<b>Viscosity</b>	<i>Not Applicable</i>
<b>Volatile Organic Compounds</b>	0 %
<b>Percent volatile</b>	0 %
<b>VOC Less H<sub>2</sub>O &amp; Exempt Solvents</b>	0 %
<b>*Dust deflagration index (Kst)</b>	70 - 250 bar.m/s [Details:Typical Range]
<b>Flash Point as text</b>	No flash point
<b>*Min. explosible conc.(MEC)</b>	35 - 55 g/m <sup>3</sup> [Details:Typical Range]
<b>*Min. ignition energy (MIE)</b>	3 - 100 mJ [Details:Typical Range]
<b>*Min. ign temp(MIT)-dust cloud</b>	450 - 550 °C [Details:Typical Range]

\* The values noted with an asterisk (\*) in the above table are representative values based on testing of raw materials and selected products. Additionally, a material's characteristics may change depending upon the process and conditions of use at a facility, including further changes in particle size, or mixture with other materials. In order to obtain specific data for the material, we recommend the user conduct characterization testing based on the use factors at the specific facility.

## 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

Sparks and/or flames  
Heat

#### 10.5. Incompatible materials

None known.

#### 10.6. Hazardous decomposition products

<u>Substance</u>	<u>Condition</u>
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.

May cause additional health effects (see below).

##### 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.

Photosensitization: Signs/symptoms may include a sunburn-like reaction such as blistering, redness, swelling, and itching from minor exposure to sunlight.

##### 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:

**Reproductive/Developmental Toxicity:**

Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

**Carcinogenicity:**

Contains a chemical or chemicals which can cause cancer.

Ingredient	CAS No.	Class Description	Regulation
2-METHYLIMIDAZOLE	693-98-1	Grp. 2B: Possible human carc.	International Agency for Research on Cancer
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**

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE >5,000 mg/kg
Overall product	Inhalation-Dust/Mist(4 hr)		No data available; calculated ATE >12.5 mg/l
Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROXYDRIN POLYMER	Dermal	Rat	LD50 > 1,600 mg/kg
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROXYDRIN POLYMER	Ingestion	Rat	LD50 > 1,000 mg/kg
EPOXY RESIN - AMINE CONDENSATE	Dermal	Rat	LD50 > 2,000 mg/kg
EPOXY RESIN - AMINE CONDENSATE	Ingestion	Rat	LD50 > 2,000 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
4,4'-ISOPROPYLIDENEDIPHENOL	Dermal	Rabbit	LD50 > 2,000 mg/kg
4,4'-ISOPROPYLIDENEDIPHENOL	Ingestion	Rat	LD50 3,200 mg/kg
CHROMIUM OXIDE (CR2O3)	Dermal	Professional judgement	LD50 estimated to be > 5,000 mg/kg
CHROMIUM OXIDE (CR2O3)	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5.41 mg/l
CHROMIUM OXIDE (CR2O3)	Ingestion	Rat	LD50 > 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
2-METHYLIMIDAZOLE	Dermal	Rabbit	LD50 > 2,000 mg/kg
2-METHYLIMIDAZOLE	Ingestion	Rat	LD50 1,500 mg/kg
PHENOL-FORMALDEHYDE POLYMER	Dermal	Rat	LD50 > 2,000 mg/kg
PHENOL-FORMALDEHYDE POLYMER	Ingestion	Rat	LD50 > 2,900 mg/kg

ATE = acute toxicity estimate

**Skin Corrosion/Irritation**

Name	Species	Value
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROXYDRIN POLYMER	Rabbit	Mild irritant
EPOXY RESIN - AMINE CONDENSATE	Rabbit	No significant irritation
TITANIUM DIOXIDE	Rabbit	No significant irritation
4,4'-ISOPROPYLIDENEDIPHENOL	Rabbit	No significant irritation



CHROMIUM OXIDE (CR2O3)	Rabbit	No significant irritation
SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE	Rabbit	No significant irritation
2-METHYLIMIDAZOLE	In vitro data	Corrosive
PHENOL-FORMALDEHYDE POLYMER	Human and animal	Mild irritant

**Serious Eye Damage/Irritation**

Name	Species	Value
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROXYDRIN POLYMER	Rabbit	Moderate irritant
EPOXY RESIN - AMINE CONDENSATE	Rabbit	No significant irritation
TITANIUM DIOXIDE	Rabbit	No significant irritation
4,4'-ISOPROPYLIDENEDIPHENOL	Rabbit	Corrosive
CHROMIUM OXIDE (CR2O3)	Rabbit	No significant irritation
SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE	Rabbit	No significant irritation
2-METHYLIMIDAZOLE	Rabbit	Corrosive
PHENOL-FORMALDEHYDE POLYMER	Human and animal	Moderate irritant

**Skin Sensitization**

Name	Species	Value
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROXYDRIN POLYMER	Human and animal	Sensitizing
EPOXY RESIN - AMINE CONDENSATE	Guinea pig	Sensitizing
TITANIUM DIOXIDE	Human and animal	Not classified
4,4'-ISOPROPYLIDENEDIPHENOL	official classification	Sensitizing
CHROMIUM OXIDE (CR2O3)	similar compounds	Not classified
SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE	Human and animal	Not classified
PHENOL-FORMALDEHYDE POLYMER	Human and animal	Sensitizing

**Photosensitization**

Name	Species	Value
4,4'-ISOPROPYLIDENEDIPHENOL	Human and animal	Sensitizing

**Respiratory Sensitization**

Name	Species	Value
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROXYDRIN POLYMER	Human	Not classified
PHENOL-FORMALDEHYDE POLYMER	Human	Not classified

**Germ Cell Mutagenicity**

Name	Route	Value
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROXYDRIN POLYMER	In vivo	Not mutagenic
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROXYDRIN POLYMER	In Vitro	Some positive data exist, but the data are not

		sufficient for classification
EPOXY RESIN - AMINE CONDENSATE	In Vitro	Not mutagenic
TITANIUM DIOXIDE	In Vitro	Not mutagenic
TITANIUM DIOXIDE	In vivo	Not mutagenic
4,4'-ISOPROPYLIDENEDIPHENOL	In vivo	Not mutagenic
4,4'-ISOPROPYLIDENEDIPHENOL	In Vitro	Some positive data exist, but the data are not sufficient for classification
CHROMIUM OXIDE (CR2O3)	In vivo	Not mutagenic
CHROMIUM OXIDE (CR2O3)	In Vitro	Some positive data exist, but the data are not sufficient for classification
SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE	In Vitro	Not mutagenic
2-METHYLIMIDAZOLE	In Vitro	Not mutagenic
2-METHYLIMIDAZOLE	In vivo	Some positive data exist, but the data are not sufficient for classification

### Carcinogenicity

Name	Route	Species	Value
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROXYDRIN POLYMER	Dermal	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
4,4'-ISOPROPYLIDENEDIPHENOL	Ingestion	Multiple animal species	Some positive data exist, but the data are not sufficient for classification
CHROMIUM OXIDE (CR2O3)	Ingestion	Rat	Not carcinogenic
SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE	Not Specified	Mouse	Some positive data exist, but the data are not sufficient for classification
2-METHYLIMIDAZOLE	Ingestion	Multiple animal species	Carcinogenic

### Reproductive Toxicity

#### Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROXYDRIN POLYMER	Ingestion	Not classified for female reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROXYDRIN POLYMER	Ingestion	Not classified for male reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROXYDRIN POLYMER	Dermal	Not classified for development	Rabbit	NOAEL 300 mg/kg/day	during organogenesis
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROXYDRIN POLYMER	Ingestion	Not classified for development	Rat	NOAEL 750 mg/kg/day	2 generation
4,4'-ISOPROPYLIDENEDIPHENOL	Ingestion	Not classified for female reproduction	Multiple animal species	NOAEL 50 mg/kg/day	
4,4'-ISOPROPYLIDENEDIPHENOL	Ingestion	Not classified for male reproduction	Multiple animal species	NOAEL 50 mg/kg/day	
4,4'-ISOPROPYLIDENEDIPHENOL	Ingestion	Toxic to development	Multiple animal species	NOAEL 50 mg/kg/day	
CHROMIUM OXIDE (CR2O3)	Ingestion	Not classified for female reproduction	Rat	NOAEL 2,000 mg/kg/day	90 days
CHROMIUM OXIDE (CR2O3)	Ingestion	Not classified for male reproduction	Rat	NOAEL 2,000 mg/kg/day	90 days
CHROMIUM OXIDE (CR2O3)	Ingestion	Not classified for development	Rat	NOAEL 2,000 mg/kg/day	90 days
SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE	Ingestion	Not classified for female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
SYNTHETIC AMORPHOUS SILICA,	Ingestion	Not classified for male reproduction	Rat	NOAEL 497	1 generation

FUMED, CRYSTALLINE FREE				mg/kg/day	
SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE	Ingestion	Not classified for development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis
2-METHYLIMIDAZOLE	Ingestion	Not classified for female reproduction	Multiple animal species	NOAEL 1,860 mg/kg/day	14 weeks
2-METHYLIMIDAZOLE	Ingestion	Toxic to male reproduction	Rat	NOAEL 300 mg/kg/day	14 weeks

### Target Organ(s)

#### Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
4,4'-ISOPROPYLIDENEDIPH ENOL	Inhalation	respiratory irritation	May cause respiratory irritation	Multiple animal species	LOAEL 0.152 mg/l	15 minutes
CHROMIUM OXIDE (CR2O3)	Inhalation	respiratory system	Not classified	Rat	NOAEL 40 mg	
PHENOL-FORMALDEHYDE POLYMER	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human and animal	NOAEL Not available	

#### Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
4,4'-ISOPROPYLIDENEDIPH ENOL-EPICHLOROHYDRIN POLYMER	Dermal	liver	Not classified	Rat	NOAEL 1,000 mg/kg/day	2 years
4,4'-ISOPROPYLIDENEDIPH ENOL-EPICHLOROHYDRIN POLYMER	Dermal	nervous system	Not classified	Rat	NOAEL 1,000 mg/kg/day	13 weeks
4,4'-ISOPROPYLIDENEDIPH ENOL-EPICHLOROHYDRIN POLYMER	Ingestion	auditory system   heart   endocrine system   hematopoietic system   liver   eyes   kidney and/or bladder	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
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	Not classified	Human	NOAEL Not available	occupational exposure
4,4'-ISOPROPYLIDENEDIPH ENOL	Inhalation	liver   kidney and/or bladder   hematopoietic system	Not classified	Rat	NOAEL 0.15 mg/l	13 weeks
4,4'-ISOPROPYLIDENEDIPH ENOL	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 50 mg/kg/day	3 generation
4,4'-ISOPROPYLIDENEDIPH ENOL	Ingestion	liver	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 370 mg/kg/day	13 weeks
4,4'-ISOPROPYLIDENEDIPH ENOL	Ingestion	endocrine system   hematopoietic system	Not classified	Rat	NOAEL 500 mg/kg/day	3 generation
4,4'-ISOPROPYLIDENEDIPH ENOL	Ingestion	nervous system	Not classified	Rat	NOAEL 185 mg/kg/day	90 days
4,4'-	Ingestion	heart   bone, teeth,	Not classified	Mouse	NOAEL	13 weeks

ISOPROPYLIDENEDIPH ENOL		nails, and/or hair			2,400 mg/kg/day	
CHROMIUM OXIDE (CR2O3)	Inhalation	immune system   respiratory system   hematopoietic system   liver   kidney and/or bladder	Not classified	Rat	NOAEL 44 mg/m3	90 days
SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE	Inhalation	respiratory system   silicosis	Not classified	Human	NOAEL Not available	occupational exposure
2-METHYLIMIDAZOLE	Ingestion	endocrine system   hematopoietic system	May cause damage to organs though prolonged or repeated exposure	Multiple animal species	LOAEL 40 mg/kg/day	14 weeks
2-METHYLIMIDAZOLE	Ingestion	liver	Not classified	Multiple animal species	NOAEL 1,860 mg/kg/day	14 weeks
2-METHYLIMIDAZOLE	Ingestion	bone marrow	Not classified	Mouse	LOAEL 315 mg/kg/day	2 years
2-METHYLIMIDAZOLE	Ingestion	heart	Not classified	Mouse	NOAEL 1,740 mg/kg/day	14 weeks
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. 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. If no other disposal options are available, waste product that has been completely cured or polymerized may be placed in a landfill properly designed for industrial waste. 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**

Not regulated per U.S. DOT, IATA or IMO.

These transportation classifications are provided as a customer service. As the shipper YOU remain responsible for complying with all applicable laws and regulations, including proper transportation classification and packaging. 3M transportation classifications are based on product formulation, packaging, 3M policies and 3M understanding of applicable current regulations. 3M does not guarantee the accuracy of this classification information. This information applies only to transportation classification and not the packaging, labeling, or marking requirements. The original 3M package is certified for U.S. ground shipment only. If you are shipping by air or ocean, the package may not meet applicable regulatory requirements.

**SECTION 15: Regulatory information****15.1. US Federal Regulations**

Contact 3M for more information.

**EPCRA 311/312 Hazard Classifications:****Physical Hazards**

Combustible Dust

**Health Hazards**

Carcinogenicity

Reproductive toxicity

Respiratory or Skin Sensitization

Serious eye damage or eye irritation

**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>
4,4'-ISOPROPYLIDENEDIPHENOL	80-05-7	Trade Secret 0.5 - 5
CHROMIUM OXIDE (CR2O3) (CHROMIUM (III) COMPOUNDS)	1308-38-9	0.5 - 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 new substance notification requirements of CEPA.

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.

#### **HMIS Hazard Classification**

**Health: \*2 Flammability: 1 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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