



Safety Data Sheet

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SECTION 1: Identification

1.1. Product identifier

Scotchkote 446 Blue Dowel Bar Resin

Product Identification Numbers

80-6300-0152-9

1.2. Recommended use and restrictions on use

Recommended use

Coating, Fusion Bonded Epoxy Coating for Metal

1.3. Supplier's details

MANUFACTURER:	3M
DIVISION:	Electrical Markets 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

Combustible Dust.

Serious Eye Damage/Irritation: Category 2B.

Skin Sensitizer: Category 1.

Reproductive Toxicity: Category 2.

Carcinogenicity: Category 1A.

2.2. Label elements

Signal word

Danger

Symbols

Exclamation mark | Health Hazard |

Pictograms



Hazard Statements

May form combustible dust concentrations in air.

Causes eye irritation.

May cause an allergic skin reaction.

Suspected of damaging fertility or the unborn child.

May cause 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 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.

2.3. Hazards not otherwise classified

None.

2% of the mixture consists of ingredients of unknown acute oral toxicity.

2% of the mixture consists of ingredients of unknown acute dermal toxicity.

96% of the mixture consists of ingredients of unknown acute inhalation toxicity.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
DI(4-HYDROXYPHENOL)ISOPROPYLIDENE DIGLYCIDYL ETHER-DI(4- HYDROXYPHENOL)ISOPROPYLIDENE COPOLYMER	25036-25-3	50 - 70 Trade Secret *
CALCIUM SILICATE	13983-17-0	20 - 40 Trade Secret *
TITANIUM DIOXIDE	13463-67-7	1 - 5 Trade Secret *

EPOXY RESIN - AMINE CONDENSATE	Trade Secret*	1 - 3 Trade Secret *
DICYANDIAMIDE	461-58-5	1 - 3 Trade Secret *
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	25068-38-6	1 - 2 Trade Secret *
QUARTZ SILICA	14808-60-7	< 0.40 Trade Secret *
4,4'-ISOPROPYLIDENEDIPHENOL	80-05-7	< 0.30 Trade Secret *
2-METHYLIMIDAZOLE	693-98-1	< 0.20 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:

Flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms persist, 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
Ammonia
Oxides of Nitrogen

Condition

During Combustion
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. 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. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. 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). Use wet sweeping compound or water to avoid dusting. Sweep up. Place in a closed container approved for transportation by appropriate authorities. Clean up residue. Seal the container. Dispose of collected material as soon as possible.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid eye contact. Avoid breathing of vapors created during cure cycle. Avoid breathing of dust created by cutting, sanding, grinding or machining. 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. 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
TITANIUM DIOXIDE	13463-67-7	ACGIH	TWA:10 mg/m ³	A4: Not class. as human carcin
TITANIUM DIOXIDE	13463-67-7	CMRG	TWA(as respirable dust):5 mg/m ³	
TITANIUM DIOXIDE	13463-67-7	OSHA	TWA(as total dust):15 mg/m ³	
QUARTZ SILICA	14808-60-7	ACGIH	TWA(respirable fraction):0.025 mg/m ³	A2: Suspected human carcin.

QUARTZ SILICA	14808-60-7	OSHA	TWA concentration(as total dust):0.3 mg/m ³ ;TWA concentration(respirable):0.1 mg/m ³ (2.4 millions of particles/cu. ft.)	
4,4'-ISOPROPYLIDENEDIPHENOL	80-05-7	CMRG	TWA:5 mg/m ³	

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. Do not remain in area where available oxygen may be reduced. 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.

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

General Physical Form:	Solid
Specific Physical Form:	Powder
Odor, Color, Grade:	Blue Powder
Odor threshold	<i>No Data Available</i>
pH	<i>Not Applicable</i>
Boiling Point	<i>Not Applicable</i>
Flash Point	No flash point
Evaporation rate	<i>No Data Available</i>
Flammability (solid, gas)	Not Classified
Vapor Pressure	<i>Not Applicable</i>
Vapor Density	<i>No Data Available</i>
Density	1.46 g/cm ³
Specific Gravity	1.46 [Ref Std: WATER=1]
Solubility in Water	Nil
Solubility- non-water	<i>No Data Available</i>
Partition coefficient: n-octanol/ water	<i>No Data Available</i>
Decomposition temperature	<i>No Data Available</i>
Viscosity	<i>No Data Available</i>
Volatile Organic Compounds	0 %
Percent volatile	0 %
VOC Less H₂O & Exempt Solvents	0 %
*Dust deflagration index (Kst)	70 - 250 bar.m/s [Details: Typical Range]
Flash Point as text	No flash point
*Min. explosible conc.(MEC)	35 - 55 g/m ³ [Details: Typical Range]
*Min. ignition energy (MIE)	3 - 100 mJ [Details: Typical Range]
*Min. ign temp(MIT)-dust cloud	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

Heat

Sparks and/or flames

10.5. Incompatible materials

Not determined

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.

Vapors released during curing may cause irritation of the respiratory system. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

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

Skin Contact:

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:

Moderate Eye Irritation: Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Vapors released during curing may cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

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

Ingestion:

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

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
SILICA, CRYSTAL AIRRESP	14808-60-7	Known human carcinogen	National Toxicology Program Carcinogens
2-METHYLIMIDAZOLE	693-98-1	Grp. 2B: Possible human carc.	International Agency for Research on Cancer
QUARTZ SILICA	14808-60-7	Grp. 1: Carcinogenic to humans	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
DI(4-HYDROXYPHENOL)ISOPROPYLIDENE DIGLYCIDYL ETHER-DI(4-HYDROXYPHENOL)ISOPROPYLIDENE COPOLYMER	Dermal	Rat	LD50 > 1,600 mg/kg
DI(4-HYDROXYPHENOL)ISOPROPYLIDENE DIGLYCIDYL ETHER-DI(4-HYDROXYPHENOL)ISOPROPYLIDENE COPOLYMER	Ingestion	Rat	LD50 > 1,000 mg/kg
CALCIUM SILICATE	Dermal		LD50 estimated to be > 5,000 mg/kg
CALCIUM SILICATE	Ingestion		LD50 estimated to be 2,000 - 5,000 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
DICYANDIAMIDE	Dermal	Rabbit	LD50 > 10,000 mg/kg
DICYANDIAMIDE	Ingestion	Rat	LD50 > 30,000 mg/kg
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	Dermal	Rat	LD50 > 1,600 mg/kg
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	Ingestion	Rat	LD50 > 1,000 mg/kg
QUARTZ SILICA	Dermal		LD50 estimated to be > 5,000 mg/kg
QUARTZ SILICA	Ingestion		LD50 estimated to be > 5,000 mg/kg
4,4'-ISOPROPYLIDENEDIPHENOL	Dermal	Rabbit	LD50 > 2,000 mg/kg
4,4'-ISOPROPYLIDENEDIPHENOL	Ingestion	Rat	LD50 3,200 mg/kg
2-METHYLIMIDAZOLE	Dermal	Rabbit	LD50 > 2,000 mg/kg
2-METHYLIMIDAZOLE	Ingestion	Rat	LD50 1,500 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
DI(4-HYDROXYPHENOL)ISOPROPYLIDENE DIGLYCIDYL ETHER-DI(4-HYDROXYPHENOL)ISOPROPYLIDENE COPOLYMER	Rabbit	Mild irritant
TITANIUM DIOXIDE	Rabbit	No significant irritation
DICYANDIAMIDE	Human and animal	Minimal irritation
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	Rabbit	Mild irritant
QUARTZ SILICA		No significant irritation
4,4'-ISOPROPYLIDENEDIPHENOL	Rabbit	No significant irritation
2-METHYLIMIDAZOLE	In vitro data	Corrosive

Serious Eye Damage/Irritation

Name	Species	Value
DI(4-HYDROXYPHENOL)ISOPROPYLIDENE DIGLYCIDYL ETHER-DI(4-	Rabbit	Moderate irritant

HYDROXYPHENOL)ISOPROPYLIDENE COPOLYMER		
TITANIUM DIOXIDE	Rabbit	No significant irritation
DICYANDIAMIDE	Professional judgement	Mild irritant
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	Rabbit	Moderate irritant
4,4'-ISOPROPYLIDENEDIPHENOL	Rabbit	Corrosive
2-METHYLIMIDAZOLE	Rabbit	Corrosive

Skin Sensitization

Name	Species	Value
DI(4-HYDROXYPHENOL)ISOPROPYLIDENE DIGLYCIDYL ETHER-DI(4-HYDROXYPHENOL)ISOPROPYLIDENE COPOLYMER	Human and animal	Sensitizing
TITANIUM DIOXIDE	Human and animal	Not sensitizing
DICYANDIAMIDE	Guinea pig	Some positive data exist, but the data are not sufficient for classification
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	Human and animal	Sensitizing
4,4'-ISOPROPYLIDENEDIPHENOL	official classification	Sensitizing

Photosensitization

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

Respiratory Sensitization

Name	Species	Value
DI(4-HYDROXYPHENOL)ISOPROPYLIDENE DIGLYCIDYL ETHER-DI(4-HYDROXYPHENOL)ISOPROPYLIDENE COPOLYMER	Human	Some positive data exist, but the data are not sufficient for classification
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	Human	Some positive data exist, but the data are not sufficient for classification

Germ Cell Mutagenicity

Name	Route	Value
DI(4-HYDROXYPHENOL)ISOPROPYLIDENE DIGLYCIDYL ETHER-DI(4-HYDROXYPHENOL)ISOPROPYLIDENE COPOLYMER	In vivo	Not mutagenic
DI(4-HYDROXYPHENOL)ISOPROPYLIDENE DIGLYCIDYL ETHER-DI(4-HYDROXYPHENOL)ISOPROPYLIDENE COPOLYMER	In Vitro	Some positive data exist, but the data are not sufficient for classification
CALCIUM SILICATE	In Vitro	Not mutagenic
TITANIUM DIOXIDE	In Vitro	Not mutagenic
TITANIUM DIOXIDE	In vivo	Not mutagenic
DICYANDIAMIDE	In Vitro	Not mutagenic
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	In vivo	Not mutagenic
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	In Vitro	Some positive data exist, but the data are not sufficient for classification
QUARTZ SILICA	In Vitro	Some positive data exist, but the data are not sufficient for classification
QUARTZ SILICA	In vivo	Some positive data exist, but the data are not sufficient for classification
4,4'-ISOPROPYLIDENEDIPHENOL	In vivo	Not mutagenic
4,4'-ISOPROPYLIDENEDIPHENOL	In Vitro	Some positive data exist, but the data are not sufficient for classification
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
DI(4-HYDROXYPHENOL)ISOPROPYLIDENE DIGLYCIDYL ETHER-DI(4-HYDROXYPHENOL)ISOPROPYLIDENE COPOLYMER	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
DICYANDIAMIDE	Ingestion	Rat	Not carcinogenic
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
QUARTZ SILICA	Inhalation	Human and animal	Carcinogenic
4,4'-ISOPROPYLIDENEDIPHENOL	Ingestion	Multiple animal species	Some positive data exist, but the data are not sufficient for classification
2-METHYLMIDAZOLE	Ingestion	Multiple animal species	Carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
DI(4-HYDROXYPHENOL)ISOPROPYLIDENE DIGLYCIDYL ETHER-DI(4-HYDROXYPHENOL)ISOPROPYLIDENE COPOLYMER	Ingestion	Not toxic to female reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
DI(4-HYDROXYPHENOL)ISOPROPYLIDENE DIGLYCIDYL ETHER-DI(4-HYDROXYPHENOL)ISOPROPYLIDENE COPOLYMER	Ingestion	Not toxic to male reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
DI(4-HYDROXYPHENOL)ISOPROPYLIDENE DIGLYCIDYL ETHER-DI(4-HYDROXYPHENOL)ISOPROPYLIDENE COPOLYMER	Dermal	Not toxic to development	Rabbit	NOAEL 300 mg/kg/day	during organogenesis
DI(4-HYDROXYPHENOL)ISOPROPYLIDENE DIGLYCIDYL ETHER-DI(4-HYDROXYPHENOL)ISOPROPYLIDENE COPOLYMER	Ingestion	Not toxic to development	Rat	NOAEL 750 mg/kg/day	2 generation
DICYANDIAMIDE	Ingestion	Not toxic to female reproduction	Rat	NOAEL 1,000 mg/kg/day	premating & during gestation
DICYANDIAMIDE	Ingestion	Not toxic to male reproduction	Rat	NOAEL 1,000 mg/kg/day	44 days
DICYANDIAMIDE	Ingestion	Not toxic to development	Rat	NOAEL 1,000 mg/kg/day	premating & during gestation
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	Ingestion	Not toxic to female reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	Ingestion	Not toxic to male reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	Dermal	Not toxic to development	Rabbit	NOAEL 300 mg/kg/day	during organogenesis
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	Ingestion	Not toxic to development	Rat	NOAEL 750 mg/kg/day	2 generation
4,4'-ISOPROPYLIDENEDIPHENOL	Inhalation	Not toxic to female reproduction	Rat	NOAEL 0.15 mg/l	13 weeks

4,4'-ISOPROPYLIDENEDIPHENOL	Inhalation	Not toxic to male reproduction	Rat	NOAEL 0.15 mg/l	13 weeks
4,4'-ISOPROPYLIDENEDIPHENOL	Ingestion	Some positive female reproductive data exist, but the data are not sufficient for classification	Multiple animal species	NOAEL 50 mg/kg/day	
4,4'-ISOPROPYLIDENEDIPHENOL	Ingestion	Some positive male reproductive data exist, but the data are not sufficient for classification	Multiple animal species	NOAEL 50 mg/kg/day	
4,4'-ISOPROPYLIDENEDIPHENOL	Ingestion	Toxic to development	Multiple animal species	NOAEL 50 mg/kg/day	
2-METHYLIMIDAZOLE	Ingestion	Some positive female reproductive data exist, but the data are not sufficient for classification	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'-ISOPROPYLIDENEDIPHENOL	Inhalation	respiratory irritation	May cause respiratory irritation	Multiple animal species	LOAEL 0.152 mg/l	15 minutes

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
DI(4-HYDROXYPHENOL)ISO PROPYLIDENE DIGLYCIDYL ETHER- DI(4-HYDROXYPHENOL)ISO PROPYLIDENE COPOLYMER	Dermal	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,000 mg/kg/day	2 years
DI(4-HYDROXYPHENOL)ISO PROPYLIDENE DIGLYCIDYL ETHER- DI(4-HYDROXYPHENOL)ISO PROPYLIDENE COPOLYMER	Dermal	nervous system	All data are negative	Rat	NOAEL 1,000 mg/kg/day	13 weeks
DI(4-HYDROXYPHENOL)ISO PROPYLIDENE DIGLYCIDYL ETHER- DI(4-HYDROXYPHENOL)ISO PROPYLIDENE COPOLYMER	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
CALCIUM SILICATE	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
CALCIUM SILICATE	Inhalation	pulmonary fibrosis	All data are negative	Human and animal	NOAEL Not available	
TITANIUM DIOXIDE	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 0.010 mg/l	2 years
TITANIUM DIOXIDE	Inhalation	pulmonary fibrosis	All data are negative	Human	NOAEL Not available	occupational exposure
DICYANDIAMIDE	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 6,822 mg/kg/day	13 weeks

4,4'-ISOPROPYLIDENEDIPH ENOL-EPICHLOROHYDRIN POLYMER	Dermal	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,000 mg/kg/day	2 years
4,4'-ISOPROPYLIDENEDIPH ENOL-EPICHLOROHYDRIN POLYMER	Dermal	nervous system	All data are negative	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	All data are negative	Rat	NOAEL 1,000 mg/kg/day	28 days
QUARTZ SILICA	Inhalation	silicosis	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure
4,4'-ISOPROPYLIDENEDIPH ENOL	Inhalation	liver kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 0.15 mg/l	13 weeks
4,4'-ISOPROPYLIDENEDIPH ENOL	Inhalation	hematopoietic system	All data are negative	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	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 500 mg/kg/day	3 generation
4,4'-ISOPROPYLIDENEDIPH ENOL	Ingestion	nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 185 mg/kg/day	90 days
4,4'-ISOPROPYLIDENEDIPH ENOL	Ingestion	heart bone, teeth, nails, and/or hair	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 2,400 mg/kg/day	13 weeks
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	Some positive data exist, but the data are not sufficient for classification	Multiple animal species	NOAEL 1,860 mg/kg/day	14 weeks
2-METHYLIMIDAZOLE	Ingestion	bone marrow	Some positive data exist, but the data are not sufficient for classification	Mouse	LOAEL 315 mg/kg/day	2 years
2-METHYLIMIDAZOLE	Ingestion	heart	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 1,740 mg/kg/day	14 weeks

Aspiration Hazard

Name	Value
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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.

EPA Hazardous Waste Number (RCRA): Not regulated

SECTION 14: Transport Information

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

SECTION 15: Regulatory information

15.1. US Federal Regulations

Contact 3M for more information.

311/312 Hazard Categories:

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

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.

HMIS Hazard Classification

Health: *2 **Flammability:** 1 **Physical Hazard:** 0 **Personal Protection:** X - See PPE section.

Hazardous Material Identification System (HMIS® III) 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® III ratings are to be used with a fully implemented HMIS® III program. HMIS® is a registered mark of the American Coatings Association (ACA).

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