Safety Data Sheet

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Document Group:	28-8647-1	**Version Number:**	2.03
Issue Date:	07/24/23	**Supercedes Date:**	05/03/21

Product identifier
3M™ Scotchcast™ Flexible Power Cable Splicing Kits with 2131 Resin (82-F1, 82-F2, 82-BF1, ALK-8 series)

Recommended use
Electrical

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)

Emergency telephone number
1-800-364-3577 or (651) 737-6501 (24 hours)

This product is a kit or a multipart product which consists of multiple, independently packaged components. A Safety Data Sheet (SDS), Article Information Sheet (AIS), or Article Information Letter (AIL) for each of these components is included. Please do not separate the component documents from this cover page. The document numbers for components of this product are:

28-7650-6, 28-7666-2

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Document Group:	28-7650-6	**Version Number:**	7.02
Issue Date:	01/12/26	**Supersedes Date:**	04/30/25

SECTION 1: Identification

1.1. Product identifier
3M™ Scotchcast™ Flame-Retardant Compound 2131 (Part A)

Product Identification Numbers

ID Number	UPC	ID Number	UPC
80-6114-2633-1		80-6114-6840-8	000-51128-59181-9
80-6116-1242-7			

7000058847, 7010351754

1.2. Recommended use and restrictions on use

Recommended use
Electrical, Part A of two part electrical resin

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
Skin Corrosion/Irritation: Category 2.
Serious Eye Damage/Irritation: Category 2A.
Respiratory Sensitizer: Category 1.
Skin Sensitizer: Category 1.
Specific Target Organ Toxicity (repeated exposure): Category 1.
Specific Target Organ Toxicity (single exposure): Category 3.

2.2. Label elements
Signal word

Danger

Symbols
Exclamation mark |Health Hazard |

Pictograms



Hazard Statements

Causes skin irritation.
Causes serious eye irritation.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
May cause respiratory irritation.

Causes damage to organs through prolonged or repeated exposure: respiratory system.

Precautionary statements

Prevention:
Do not breathe vapors.
Wash exposed skin thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing should not be allowed out of the workplace.
Wear protective gloves and eye protection.
In case of inadequate ventilation wear respiratory protection.

Response:
IF ON SKIN: Wash with plenty of soap and water.
IF INHALED: Call a POISON CENTER or doctor if you feel unwell.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Get medical attention if you feel unwell.
If eye irritation persists or if skin irritation or rash occurs: Get medical attention.
If experiencing respiratory symptoms: Call a POISON CENTER or doctor.
Take off contaminated clothing and wash it before reuse.

Storage:
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.

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

Supplemental Information:
Persons previously sensitized to isocyanates may develop a cross-sensitization reaction to other isocyanates.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
POLYETHER-HYDROCARBON-URETHANE POLYMER	154517-54-1	35 - 45
P,P'-METHYLENEBIS(PHENYL ISOCYANATE)	101-68-8	15 - 40 Trade Secret *
BENZENE, 1,1'-METHYLENEBIS[ISOCYANATO-, HOMOPOLYMER	39310-05-9	10 - 30 Trade Secret *
DIUNDECYL PHTHALATE	3648-20-2	< 15
1,1'-METHYLENEBIS(ISOCYANATOBENZENE)	26447-40-5	1 - 5 Trade Secret *
TRIETHYL PHOSPHATE	78-40-0	< 1.2

*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

Irritating to the respiratory tract (coughing, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain). Allergic respiratory reaction (difficulty breathing, wheezing, cough, and tightness of chest). Allergic skin reaction (redness, swelling, blistering, and itching). Target organ effects following prolonged or repeated exposure. See Section 11 for additional details.

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

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media
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
Closed containers exposed to heat from fire may build pressure and explode.

Hazardous Decomposition or By-Products

Substance	Condition
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion
Hydrogen Cyanide	During Combustion
Oxides of Nitrogen	During Combustion

5.3. Special protective actions for fire-fighters

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

SECTION 6: Accidental release measures

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

6.2. Environmental precautions
Avoid release to the environment. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water.

6.3. Methods and material for containment and cleaning up
Contain spill. Pour isocyanate decontaminant solution (90% water, 8% concentrated ammonia, 2% detergent) on spill and allow to react for 10 minutes. Or pour water on spill and allow to react for more than 30 minutes. Cover with absorbent material. 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 container approved for transportation by appropriate authorities, but do not seal the container for 48 hours to avoid pressure build-up. 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. 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
For industrial/occupational use only. Not for consumer sale or use. Do not use in a confined area with minimal air exchange. 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 in a well-ventilated place. Keep cool. Keep container tightly closed to prevent contamination with water or air. If contamination is suspected, do not reseal container. Protect from sunlight. Store away from heat. Store away from strong bases. Store away from areas where product may come into contact with food or pharmaceuticals. Store in a dry place.

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
P,P'-METHYLENEBIS(PHENYL	101-68-8	OSHA	CEIL:0.2 mg/m3(0.02 ppm)	

ISOCYANATE)				
TRIETHYL PHOSPHATE	78-40-0	AIHA	TWA:7.45 mg/m3(1 ppm)	

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

8.2. Exposure controls

8.2.1. Engineering controls
Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:
Safety Glasses with side shields
Indirect Vented Goggles

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

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

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

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:
Half facepiece or full facepiece air-purifying respirator suitable for 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

Physical state	Liquid
Color	Light Straw
Odor	Pungent Petroleum
Odor threshold	*No Data Available*
pH	*Not Applicable*

Melting point/Freezing point	*Not Applicable*
Boiling point/Initial boiling point/Boiling range	>=148.9 ºC
Flash Point	>=148.9 ºC [*Test Method:*Closed Cup]
Evaporation rate	*No Data Available*
Flammability	Not Applicable
Flammable Limits(LEL)	*No Data Available*
Flammable Limits(UEL)	*No Data Available*
Vapor Pressure	*No Data Available*
Relative Vapor Density	*No Data Available*
Density	*No Data Available*
Relative Density	1.08 [*Ref Std:*WATER=1]
Water solubility	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*
Kinematic Viscosity	741 mm2/sec
Volatile Organic Compounds	*No Data Available*
Percent volatile	*No Data Available*
VOC Less H2O & Exempt Solvents	10.5 g/l
Average particle size	*No Data Available*
Bulk density	*No Data Available*
Molecular weight	*No Data Available*
Softening point	*No Data Available*

Particle Characteristics	*Not Applicable*

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 may occur.

10.4. Conditions to avoid
None known.

10.5. Incompatible materials
Strong bases
Alcohols
Water

10.6. Hazardous decomposition products

Substance	**Condition**
None known.	

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

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

Allergic Respiratory Reaction: Signs/symptoms may include difficulty breathing, wheezing, cough, and tightness of chest.

May cause additional health effects (see below).

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

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

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

Additional Health Effects:

Prolonged or repeated exposure may cause target organ effects:
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.

Additional Information:
Persons previously sensitized to isocyanates may develop a cross-sensitization reaction to other isocyanates.

Toxicological Data
If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

Name	Route	Species	Value
Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg
POLYETHER-HYDROCARBON-URETHANE POLYMER	Dermal		LD50 estimated to be > 5,000 mg/kg
POLYETHER-HYDROCARBON-URETHANE POLYMER	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
P,P'-METHYLENEBIS(PHENYL ISOCYANATE)	Dermal	Rabbit	LD50 > 5,000 mg/kg
P,P'-METHYLENEBIS(PHENYL ISOCYANATE)	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.368 mg/l

P,P'-METHYLENEBIS(PHENYL ISOCYANATE)	Ingestion	Rat	LD50 31,600 mg/kg
BENZENE, 1,1'-METHYLENEBIS[ISOCYANATO-, HOMOPOLYMER	Dermal	Rabbit	LD50 > 5,000 mg/kg
BENZENE, 1,1'-METHYLENEBIS[ISOCYANATO-, HOMOPOLYMER	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.368 mg/l
BENZENE, 1,1'-METHYLENEBIS[ISOCYANATO-, HOMOPOLYMER	Ingestion	Rat	LD50 31,600 mg/kg
DIUNDECYL PHTHALATE	Dermal	Rat	LD50 > 2,000 mg/kg
DIUNDECYL PHTHALATE	Ingestion	Rat	LD50 > 15,800 mg/kg
1,1'-METHYLENEBIS(ISOCYANATOBENZENE)	Dermal	Rabbit	LD50 > 5,000 mg/kg
1,1'-METHYLENEBIS(ISOCYANATOBENZENE)	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.368 mg/l
1,1'-METHYLENEBIS(ISOCYANATOBENZENE)	Ingestion	Rat	LD50 31,600 mg/kg
TRIETHYL PHOSPHATE	Dermal	Guinea pig	LD50 > 21,400 mg/kg
TRIETHYL PHOSPHATE	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 8.8 mg/l
TRIETHYL PHOSPHATE	Ingestion	Rat	LD50 1,131 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
P,P'-METHYLENEBIS(PHENYL ISOCYANATE)	official classification	Irritant
BENZENE, 1,1'-METHYLENEBIS[ISOCYANATO-, HOMOPOLYMER	official classification	Irritant
DIUNDECYL PHTHALATE	In vitro data	No significant irritation
1,1'-METHYLENEBIS(ISOCYANATOBENZENE)	official classification	Irritant
TRIETHYL PHOSPHATE	Rabbit	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
P,P'-METHYLENEBIS(PHENYL ISOCYANATE)	official classification	Severe irritant
BENZENE, 1,1'-METHYLENEBIS[ISOCYANATO-, HOMOPOLYMER	official classification	Severe irritant
DIUNDECYL PHTHALATE	Rabbit	Mild irritant
1,1'-METHYLENEBIS(ISOCYANATOBENZENE)	official classification	Severe irritant
TRIETHYL PHOSPHATE	Rabbit	Severe irritant

Skin Sensitization

Name	Species	Value
P,P'-METHYLENEBIS(PHENYL ISOCYANATE)	Mouse	Sensitizing
BENZENE, 1,1'-METHYLENEBIS[ISOCYANATO-, HOMOPOLYMER	Mouse	Sensitizing
DIUNDECYL PHTHALATE	Human	Not classified
1,1'-METHYLENEBIS(ISOCYANATOBENZENE)	Mouse	Sensitizing
TRIETHYL PHOSPHATE	Mouse	Not classified

Respiratory Sensitization

Name	Species	Value

P,P'-METHYLENEBIS(PHENYL ISOCYANATE)	Human	Sensitizing
BENZENE, 1,1'-METHYLENEBIS[ISOCYANATO-, HOMOPOLYMER	Human	Sensitizing
1,1'-METHYLENEBIS(ISOCYANATOBENZENE)	Human	Sensitizing

Germ Cell Mutagenicity

Name	Route	Value
P,P'-METHYLENEBIS(PHENYL ISOCYANATE)	In Vitro	Some positive data exist, but the data are not sufficient for classification
BENZENE, 1,1'-METHYLENEBIS[ISOCYANATO-, HOMOPOLYMER	In Vitro	Some positive data exist, but the data are not sufficient for classification
DIUNDECYL PHTHALATE	In Vitro	Not mutagenic
1,1'-METHYLENEBIS(ISOCYANATOBENZENE)	In Vitro	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
P,P'-METHYLENEBIS(PHENYL ISOCYANATE)	Inhalation	Rat	Some positive data exist, but the data are not sufficient for classification
BENZENE, 1,1'-METHYLENEBIS[ISOCYANATO-, HOMOPOLYMER	Inhalation	Rat	Some positive data exist, but the data are not sufficient for classification
1,1'-METHYLENEBIS(ISOCYANATOBENZENE)	Inhalation	Rat	Some positive data exist, but the data are not sufficient for classification

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
P,P'-METHYLENEBIS(PHENYL ISOCYANATE)	Inhalation	Not classified for development	Rat	NOAEL 0.004 mg/l	during organogenesis
BENZENE, 1,1'-METHYLENEBIS[ISOCYANATO-, HOMOPOLYMER	Inhalation	Not classified for development	Rat	NOAEL 0.004 mg/l	during organogenesis
DIUNDECYL PHTHALATE	Ingestion	Not classified for development	Rat	NOAEL 1,000 mg/kg/day	during gestation
DIUNDECYL PHTHALATE	Ingestion	Not classified for male reproduction	Rat	LOAEL 500 mg/kg/day	28 days
1,1'-METHYLENEBIS(ISOCYANATOBENZENE)	Inhalation	Not classified for development	Rat	NOAEL 0.004 mg/l	during organogenesis

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
P,P'-METHYLENEBIS(PHENYL ISOCYANATE)	Inhalation	respiratory irritation	May cause respiratory irritation	official classification	NOAEL Not available	
BENZENE, 1,1'-METHYLENEBIS[ISOCYANATO-, HOMOPOLYMER	Inhalation	respiratory irritation	May cause respiratory irritation	official classification	NOAEL Not available	
1,1'-METHYLENEBIS(ISOCYANATOBENZENE)	Inhalation	respiratory irritation	May cause respiratory irritation	official classification	NOAEL Not available	
TRIETHYL PHOSPHATE	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
P,P'-METHYLENEBIS(PHENYL ISOCYANATE)	Inhalation	respiratory system	Causes damage to organs through prolonged or repeated exposure	Rat	LOAEL 0.004 mg/l	13 weeks
BENZENE, 1,1'-METHYLENEBIS[ISOCYANATO-, HOMOPOLYMER	Inhalation	respiratory system	Causes damage to organs through prolonged or repeated exposure	Rat	LOAEL 0.004 mg/l	13 weeks
DIUNDECYL PHTHALATE	Ingestion	liver	Not classified	Rat	NOAEL 2,086 mg/kg/day	21 days
DIUNDECYL PHTHALATE	Ingestion	heart	Not classified	Rat	NOAEL 500 mg/kg/day	28 days
DIUNDECYL PHTHALATE	Ingestion	endocrine system	Not classified	Rat	NOAEL 500 mg/kg/day	28 days
DIUNDECYL PHTHALATE	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 500 mg/kg/day	28 days
DIUNDECYL PHTHALATE	Ingestion	immune system	Not classified	Rat	NOAEL 500 mg/kg/day	28 days
DIUNDECYL PHTHALATE	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 500 mg/kg/day	28 days
DIUNDECYL PHTHALATE	Ingestion	respiratory system	Not classified	Rat	NOAEL 500 mg/kg/day	28 days
1,1'-METHYLENEBIS(ISOCYANATOBENZENE)	Inhalation	respiratory system	Causes damage to organs through prolonged or repeated exposure	Rat	LOAEL 0.004 mg/l	13 weeks

Aspiration Hazard
For the component/components, either no data are currently available or the data are not sufficient for classification.

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information

Ecotoxicological information

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

SECTION 13: Disposal considerations

13.1. Disposal methods
Dispose of contents/ container in accordance with the local/regional/national/international regulations.

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. 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.

EPCRA 311/312 Hazard Classifications:

Physical Hazards
Not Applicable.

Health Hazards
Respiratory or Skin Sensitization
Serious eye damage or eye irritation
Skin Corrosion or Irritation
Specific target organ toxicity (single or repeated exposure)

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

Ingredient	C.A.S. No	% by Wt
P,P'-METHYLENEBIS(PHENYL ISOCYANATE)	101-68-8	Trade Secret 15 - 40

15.2. State Regulations

Contact 3M for more information.

15.3. Chemical Inventories

The components of this material are in compliance with the China "Measures on Environmental Management of New Chemical Substance". Certain restrictions may apply. Contact the selling division for additional information.

The components of this material are in compliance with the provisions of Philippines RA 6969 requirements. Certain restrictions may apply. Contact the selling division for additional information.

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

Contact 3M for more information.

15.4. International Regulations

Contact 3M for more information.

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: Other information

NFPA Hazard Classification
Health: 2 **Flammability:** 1 **Instability:** 0 **Special Hazards:** None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address

the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

HMIS Hazard Classification
Health: *3 **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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Safety Data Sheet

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SECTION 1: Identification

1.1. Product identifier
3M™ Scotchcast™ Flame Retardant Resin 2131 (PART B)

Product Identification Numbers

ID Number	UPC	ID Number	UPC
80-6114-6841-6	00051128591826		

7000058848

1.2. Recommended use and restrictions on use

Recommended use
Electrical, Part B of two part electrical resin

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
Serious Eye Damage/Irritation: Category 1.

2.2. Label elements
Signal word
Danger

Symbols
Corrosion |

Pictograms



Hazard Statements

Causes serious eye damage.

Precautionary statements

Prevention:
Wear eye and face protection.

Response:
IF IN EYES: Immediately call a POISON CENTER or doctor.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
Bis(pentabromo Phenyl)ethane	84852-53-9	20 - 30
HOMOPOLYMER	69102-90-5	20 - 30
DIUNDECYL PHTHALATE	3648-20-2	10 - 15
POLYPROPYLENE ETHER DIOL	25322-69-4	5 - 10 Trade Secret *
CASTOR OIL	8001-79-4	1 - 10
ANTIMONY PENTAOXIDE	1314-60-9	5 - 10
N,N-DI(2-HYDROXYPROPYL)ANILINE	3077-13-2	3 - 7 Trade Secret *
DIPROPYLENE GLYCOL	25265-71-8	3 - 6
CARBON BLACK	1333-86-4	1 - 5 Trade Secret *
Aluminum Oxide (non-fibrous)	1344-28-1	1 - 3
Silica	7631-86-9	1 - 3
Water	7732-18-5	0.5 - 2
TRIETHYLENEDIAMINE	280-57-9	< 1
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	68909-20-6	< 1

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

Eye Contact:
Immediately flush with large amounts of water for at least 15 minutes. Remove contact lenses if easy to do. Continue rinsing.

Immediately 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

Serious damage to the eyes (corneal cloudiness, severe pain, tearing, ulcerations, and significantly impaired or loss of vision).

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	Condition
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion

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

SECTION 6: Accidental release measures

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

6.2. Environmental precautions
Avoid release to the environment. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water.

6.3. Methods and material for containment and cleaning up
Contain spill. 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 in accordance with applicable local/regional/national/international regulations.

Refer to Section 15 for additional information

SECTION 7: Handling and storage

7.1. Precautions for safe handling
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. Avoid release to the environment.

7.2. Conditions for safe storage including any incompatibilities
Keep container tightly closed. Keep cool. Store away from heat. Store in a dry place.

Refer to Section 15 for additional information

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
Antimony and compounds, as Sb	1314-60-9	ACGIH	TWA(as Sb):0.5 mg/m3	
CARBON BLACK	1333-86-4	ACGIH	TWA(inhalable fraction):3 mg/m3	A3: Confirmed animal carcin.
CARBON BLACK	1333-86-4	OSHA	TWA:3.5 mg/m3	
Aluminum metal and insoluble compounds, respirable fraction	1344-28-1	ACGIH	TWA(respirable fraction):1 mg/m3	A4: Not class. as human carcin
Aluminum Oxide (non-fibrous)	1344-28-1	OSHA	TWA(as total dust):15 mg/m3;TWA(respirable fraction):5 mg/m3	
Particles (insoluble or poorly soluble) not otherwise specified, inhalable particles	1344-28-1	ACGIH	TWA(inhalable particulates):10 mg/m3	
Particles (insoluble or poorly soluble) not otherwise specified, respirable particles	1344-28-1	ACGIH	TWA(respirable particles):3 mg/m3	
POLYPROPYLENE ETHER DIOL	25322-69-4	AIHA	TWA(as aerosol):10 mg/m3	
Silica: Amorphous, including natural diatomaceous earth	68909-20-6	OSHA	TWA:20 millions of particles/cu. ft.;TWA concentration:0.8 mg/m3	
Inert or Nuisance Dust, Respirable fraction	7631-86-9	OSHA	TWA(as total dust):50 millions of particles/cu. ft.(15 mg/m3);TWA(respirable fraction):15 millions of particles/cu. ft.(5 mg/m3)	
Particles (insoluble or poorly soluble) not otherwise specified, inhalable particles	7631-86-9	ACGIH	TWA(inhalable particulates):10 mg/m3	
Particles (insoluble or poorly soluble) not otherwise specified, respirable particles	7631-86-9	ACGIH	TWA(respirable particles):3 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:
Full Face Shield
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

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.

Refer to Section 15 for additional information

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid
Color	Black
Odor	Pungent Glycol
Odor threshold	*No Data Available*
pH	*Not Applicable*
Melting point	*Not Applicable*
Boiling Point	> 290 ºF
Flash Point	> 290 ºF [*Test Method:*Closed Cup]
Evaporation rate	*No Data Available*
Flammability	Not Applicable
Flammable Limits(LEL)	*No Data Available*
Flammable Limits(UEL)	*No Data Available*
Vapor Pressure	< 27 psia [@ 131 ºF]

Relative Vapor Density	*No Data Available*
Density	*No Data Available*
Relative Density	1.29 [*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*
Kinematic Viscosity	4,264 mm2/sec
Molecular weight	*No Data Available*
VOC Less H2O & Exempt Solvents	12.9 g/l

Particle Characteristics *Not Applicable*

SECTION 10: Stability and reactivity

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

10.2. Chemical stability
Stable.

10.3. Possibility of hazardous reactions
Hazardous polymerization will not occur.

10.4. Conditions to avoid
None known.

10.5. Incompatible materials
None known.

10.6. Hazardous decomposition products

Substance	Condition
None known.	

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

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

Skin Contact:
Contact with the skin during product use is not expected to result in significant irritation.

Eye Contact:
Corrosive (Eye Burns): Signs/symptoms may include cloudy appearance of the cornea, chemical burns, severe pain, tearing, ulcerations, significantly impaired vision or complete loss of vision.

Ingestion:
May be harmful if swallowed. Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

Carcinogenicity:

Ingredient	CAS No.	Class Description	Regulation
Carbon black	1333-86-4	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	Ingestion		No data available; calculated ATE >2,000 - =5,000 mg/kg
HOMOPOLYMER	Dermal		LD50 estimated to be > 5,000 mg/kg
HOMOPOLYMER	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
Bis(pentabromo Phenyl)ethane	Dermal	Rabbit	LC50 > 2,000 mg/kg
Bis(pentabromo Phenyl)ethane	Ingestion	Rat	LD50 > 5,000 mg/kg
DIUNDECYL PHTHALATE	Dermal	Rat	LD50 > 2,000 mg/kg
DIUNDECYL PHTHALATE	Ingestion	Rat	LD50 > 15,800 mg/kg
POLYPROPYLENE ETHER DIOL	Dermal	Rabbit	LD50 > 10,000 mg/kg
POLYPROPYLENE ETHER DIOL	Ingestion	Rat	LD50 > 1,000 mg/kg
ANTIMONY PENTAOXIDE	Ingestion	Rat	LD50 > 2,000 mg/kg
ANTIMONY PENTAOXIDE	Inhalation-Dust/Mist (4 hours)	similar compounds	LC50 > 5.4 mg/l
ANTIMONY PENTAOXIDE	Dermal	similar health hazards	LD50 estimated to be > 5,000 mg/kg
N,N-DI(2-HYDROXYPROPYL)ANILINE	Dermal	Rabbit	LD50 > 2,000 mg/kg
N,N-DI(2-HYDROXYPROPYL)ANILINE	Ingestion	Rat	LD50 3,800 mg/kg
DIPROPYLENE GLYCOL	Dermal	Rabbit	LD50 > 5,010 mg/kg
DIPROPYLENE GLYCOL	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 2.34 mg/l
DIPROPYLENE GLYCOL	Ingestion	Rat	LD50 > 5,010 mg/kg
CASTOR OIL	Dermal		LD50 estimated to be > 5,000
CASTOR OIL	Ingestion		LD50 estimated to be > 5,000
CARBON BLACK	Dermal	Rabbit	LD50 > 3,000 mg/kg
CARBON BLACK	Ingestion	Rat	LD50 > 8,000 mg/kg
Silica	Dermal	Rabbit	LD50 > 5,000 mg/kg
Silica	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l
Silica	Ingestion	Rat	LD50 > 5,110 mg/kg
Aluminum Oxide (non-fibrous)	Dermal		LD50 estimated to be > 5,000 mg/kg
Aluminum Oxide (non-fibrous)	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 2.3 mg/l

Aluminum Oxide (non-fibrous)		Ingestion	Rat	LD50 > 5,000 mg/kg
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, products with silica	hydrolysis	Ingestion	Rat	LD50 > 2,000 mg/kg
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, products with silica	hydrolysis	Dermal	similar health hazards	LD50 estimated to be > 5,000 mg/kg
TRIETHYLENEDIAMINE		Dermal	Rabbit	LD50 > 3,200 mg/kg
TRIETHYLENEDIAMINE		Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5.05 mg/l
TRIETHYLENEDIAMINE		Ingestion	Rat	LD50 1,870 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name		Species	Value
Bis(pentabromo Phenyl)ethane		Rabbit	No significant irritation
DIUNDECYL PHTHALATE		In vitro data	No significant irritation
POLYPROPYLENE ETHER DIOL		Not available	No significant irritation
ANTIMONY PENTAOXIDE		Rabbit	No significant irritation
N,N-DI(2-HYDROXYPROPYL)ANILINE		Professional judgement	Minimal irritation
DIPROPYLENE GLYCOL		Rabbit	No significant irritation
CASTOR OIL		Human	Minimal irritation
CARBON BLACK		Rabbit	No significant irritation
Silica		Rabbit	No significant irritation
Aluminum Oxide (non-fibrous)		Rabbit	No significant irritation
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-,	hydrolysis products with silica	Rabbit	No significant irritation
TRIETHYLENEDIAMINE		Rabbit	Mild irritant

Serious Eye Damage/Irritation

Name		Species	Value
Bis(pentabromo Phenyl)ethane		Rabbit	No significant irritation
DIUNDECYL PHTHALATE		Rabbit	Mild irritant
POLYPROPYLENE ETHER DIOL		Not available	Mild irritant
ANTIMONY PENTAOXIDE		similar compounds	Mild irritant
N,N-DI(2-HYDROXYPROPYL)ANILINE		Professional judgement	Corrosive
DIPROPYLENE GLYCOL		Rabbit	No significant irritation
CASTOR OIL		Rabbit	Mild irritant
CARBON BLACK		Rabbit	No significant irritation
Silica		Rabbit	No significant irritation
Aluminum Oxide (non-fibrous)		Rabbit	No significant irritation
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-,	hydrolysis products with silica	Rabbit	No significant irritation
TRIETHYLENEDIAMINE		Rabbit	Corrosive

Skin Sensitization

Name	Species	Value
Bis(pentabromo Phenyl)ethane	Guinea pig	Not classified
DIUNDECYL PHTHALATE	Human	Not classified
POLYPROPYLENE ETHER DIOL	Human and animal	Not classified

ANTIMONY PENTAOXIDE	Mouse	Not classified
DIPROPYLENE GLYCOL	Guinea pig	Not classified
CASTOR OIL	Human	Not classified
Silica	Human and animal	Not classified
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	Guinea pig	Not classified

Respiratory Sensitization

For the component/components, either no data are currently available or the data are not sufficient for classification.

Germ Cell Mutagenicity

Name	Route	Value
Bis(pentabromo Phenyl)ethane	In Vitro	Not mutagenic
DIUNDECYL PHTHALATE	In Vitro	Not mutagenic
POLYPROPYLENE ETHER DIOL	In Vitro	Not mutagenic
ANTIMONY PENTAOXIDE	In Vitro	Not mutagenic
DIPROPYLENE GLYCOL	In Vitro	Not mutagenic
DIPROPYLENE GLYCOL	In vivo	Not mutagenic
CASTOR OIL	In Vitro	Not mutagenic
CASTOR OIL	In vivo	Not mutagenic
CARBON BLACK	In Vitro	Not mutagenic
CARBON BLACK	In vivo	Some positive data exist, but the data are not sufficient for classification
Silica	In Vitro	Not mutagenic
Aluminum Oxide (non-fibrous)	In Vitro	Not mutagenic
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	In Vitro	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
DIPROPYLENE GLYCOL	Ingestion	Multiple animal species	Not carcinogenic
CARBON BLACK	Dermal	Mouse	Not carcinogenic
CARBON BLACK	Ingestion	Mouse	Not carcinogenic
CARBON BLACK	Inhalation	Rat	Carcinogenic
Silica	Not Specified	Mouse	Some positive data exist, but the data are not sufficient for classification
Aluminum Oxide (non-fibrous)	Inhalation	Rat	Not carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
Bis(pentabromo Phenyl)ethane	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,000 mg/kg/day	1 generation
Bis(pentabromo Phenyl)ethane	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	1 generation
Bis(pentabromo Phenyl)ethane	Ingestion	Not classified for development	Multiple animal species	NOAEL 1,250 mg/kg/day	during organogenesis
DIUNDECYL PHTHALATE	Ingestion	Not classified for development	Rat	NOAEL 1,000 mg/kg/day	during gestation
DIUNDECYL PHTHALATE	Ingestion	Not classified for male reproduction	Rat	LOAEL 500 mg/kg/day	28 days
DIPROPYLENE GLYCOL	Ingestion	Not classified for development	Rat	NOAEL 5,000 mg/kg/day	during organogenesis

Silica	Ingestion	Not classified for female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
Silica	Ingestion	Not classified for male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation
Silica	Ingestion	Not classified for development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	Ingestion	Not classified for female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	Ingestion	Not classified for male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation

Target Organ(s)

Specific Target Organ Toxicity - single exposure
For the component/components, either no data are currently available or the data are not sufficient for classification.

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Bis(pentabromo Phenyl)ethane	Ingestion	liver	Not classified	Rat	NOAEL 1,000 mg/kg/day	90 days
Bis(pentabromo Phenyl)ethane	Ingestion	heart	Not classified	Rat	NOAEL 1,250 mg/kg/day	28 days
Bis(pentabromo Phenyl)ethane	Ingestion	endocrine system	Not classified	Rat	NOAEL 1,250 mg/kg/day	28 days
Bis(pentabromo Phenyl)ethane	Ingestion	immune system	Not classified	Rat	NOAEL 1,250 mg/kg/day	28 days
Bis(pentabromo Phenyl)ethane	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 1,000 mg/kg/day	90 days
Bis(pentabromo Phenyl)ethane	Ingestion	nervous system	Not classified	Rat	NOAEL 1,000 mg/kg/day	90 days
Bis(pentabromo Phenyl)ethane	Ingestion	eyes	Not classified	Rat	NOAEL 1,000 mg/kg/day	90 days
Bis(pentabromo Phenyl)ethane	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 1,000 mg/kg/day	90 days
DIUNDECYL PHTHALATE	Ingestion	liver	Not classified	Rat	NOAEL 2,086 mg/kg/day	21 days
DIUNDECYL PHTHALATE	Ingestion	heart	Not classified	Rat	NOAEL 500 mg/kg/day	28 days
DIUNDECYL PHTHALATE	Ingestion	endocrine system	Not classified	Rat	NOAEL 500 mg/kg/day	28 days
DIUNDECYL PHTHALATE	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 500 mg/kg/day	28 days
DIUNDECYL PHTHALATE	Ingestion	immune system	Not classified	Rat	NOAEL 500 mg/kg/day	28 days
DIUNDECYL PHTHALATE	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 500 mg/kg/day	28 days
DIUNDECYL PHTHALATE	Ingestion	respiratory system	Not classified	Rat	NOAEL 500 mg/kg/day	28 days
DIPROPYLENE GLYCOL	Ingestion	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 470 mg/kg/day	105 weeks
DIPROPYLENE GLYCOL	Ingestion	heart	Not classified	Rat	NOAEL 3,040	105 weeks

					mg/kg/day	
DIPROPYLENE GLYCOL	Ingestion	endocrine system	Not classified	Rat	NOAEL 3,040 mg/kg/day	105 weeks
DIPROPYLENE GLYCOL	Ingestion	liver	Not classified	Rat	NOAEL 3,040 mg/kg/day	105 weeks
DIPROPYLENE GLYCOL	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 115 mg/kg/day	105 weeks
DIPROPYLENE GLYCOL	Ingestion	skin	Not classified	Rat	NOAEL 3,040 mg/kg/day	105 weeks
DIPROPYLENE GLYCOL	Ingestion	gastrointestinal tract	Not classified	Rat	NOAEL 3,040 mg/kg/day	105 weeks
DIPROPYLENE GLYCOL	Ingestion	bone, teeth, nails, and/or hair	Not classified	Rat	NOAEL 3,040 mg/kg/day	105 weeks
DIPROPYLENE GLYCOL	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 3,040 mg/kg/day	105 weeks
DIPROPYLENE GLYCOL	Ingestion	immune system	Not classified	Rat	NOAEL 3,040 mg/kg/day	105 weeks
DIPROPYLENE GLYCOL	Ingestion	nervous system	Not classified	Rat	NOAEL 3,040 mg/kg/day	105 weeks
DIPROPYLENE GLYCOL	Ingestion	vascular system	Not classified	Rat	NOAEL 3,040 mg/kg/day	105 weeks
CASTOR OIL	Ingestion	heart	Not classified	Rat	NOAEL 4,800 mg/kg/day	13 weeks
CASTOR OIL	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 4,800 mg/kg/day	13 weeks
CASTOR OIL	Ingestion	liver	Not classified	Rat	NOAEL 4,800 mg/kg/day	13 weeks
CASTOR OIL	Ingestion	kidney and/or bladder	Not classified	Mouse	NOAEL 13,000 mg/kg/day	13 weeks
CARBON BLACK	Inhalation	pneumoconiosis	Not classified	Human	NOAEL Not available	occupational exposure
Silica	Inhalation	respiratory system	Not classified	Human	NOAEL Not available	occupational exposure
Silica	Inhalation	silicosis	Not classified	Human	NOAEL Not available	occupational exposure
Aluminum Oxide (non-fibrous)	Inhalation	pneumoconiosis	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
Aluminum Oxide (non-fibrous)	Inhalation	pulmonary fibrosis	Not classified	Human	NOAEL Not available	occupational exposure
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	Inhalation	respiratory system	May cause damage to organs though prolonged or repeated exposure	Rat	LOAEL 0.035 mg/l	13 weeks
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	Inhalation	hematopoietic system	Not classified	Rat	NOAEL 0.035 mg/l	13 weeks
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	Inhalation	kidney and/or bladder	Not classified	Rat	NOAEL 0.035 mg/l	13 weeks

Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	Ingestion	liver	Not classified	Rat	NOAEL 1,000 mg/kg/day	5 weeks

Aspiration Hazard
For the component/components, either no data are currently available or the data are not sufficient for classification.

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

Refer to Section 15 for additional information

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.

Refer to Section 15 for additional information

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. 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

Refer to Section 15 for additional information

SECTION 14: Transport Information

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

SECTION 15: Regulatory information

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

EPCRA 311/312 Hazard Classifications:

Physical Hazards

Not Applicable.

Health Hazards
Serious eye damage or eye irritation

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

Ingredient	C.A.S. No	% by Wt
Aluminum Oxide (non-fibrous)	1344-28-1	1 - 3

This material contains a chemical which requires export notification under TSCA Section 12[b]:

Ingredient (Category if applicable)	C.A.S. No	Regulation	Status
Bis(pentabromo Phenyl)ethane	84852-53-9	Toxic Substances Control Act (TSCA) 5 SNUR or Consent Order Chemicals	Applicable

This material contains a chemical regulated by an EPA Significant New Use Rule (TSCA Section 5)

Ingredient (Category if applicable)	C.A.S. No	Reference
Bis(pentabromo Phenyl)ethane	84852-53-9	40 CFR 721.536

Additional TSCA Information

Components	CAS No	Additional Information
Bis(pentabromo Phenyl)ethane	84852-53-9	This substance may cause: Cancer. When using this substance: Use respiratory protection. Use skin protection. This substance may be: Toxic to aquatic organisms. Notice to users: Do not release to water. Note: The requirements of the SNUR do not apply once the substance has been incorporated into a resin.

15.2. State Regulations

Contact 3M for more information.

15.3. Chemical Inventories

The components of this material are in compliance with the China "Measures on Environmental Management of New Chemical Substance". Certain restrictions may apply. Contact the selling division for additional information.

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

Contact 3M for more information.

15.4. International Regulations

Contact 3M for more information.

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: Other information

NFPA Hazard Classification

Health: 3 **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: 3 **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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