

Safety Data Sheet

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 Document Group:
 28-8293-4
 Version Number:
 4.00

 Issue Date:
 11/12/14
 Supercedes Date:
 10/29/14

Product identifier

3M ScotchcastTM Flame-Retardant Compound 2131 (Parts A and B)

ID Number(s):

80-6114-6812-7, 80-6114-6813-5, 80-6114-6814-3, 80-6114-6815-0, 80-6114-6816-8, 80-6114-6817-6, 80-6114-6818-4, 80-6114-6819-2, 80-6114-6820-0, 80-6114-6821-8, 80-6114-6822-6, 80-6114-6823-4, 80-6114-6824-2, 80-6114-6825-9, 80-6114-6876-2, 80-6114-6876-2, 80-6114-6876-2, 80-6116-0620-5, 80-6116-0621-3, 80-6116-1277-3

Recommended use

Electrical, Industrial use, Resin

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:

28-7666-2, 28-7650-6

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3M	Scotchcast TM	Flame-Rate	ardant Co	hamaand	2131 (1	Parte A a	nd R)	11/12/14
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In addition, information obtained from a database may not be as current as the information in the SDS available directly from 3M 3M USA SDSs are available at www.3M.com



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Document Group: 28-7650-6 5.01 **Version Number: Issue Date:** 11/06/14 10/29/14 **Supercedes Date:**

SECTION 1: Identification

1.1. Product identifier

ScotchcastTM Flame-Retardant Compound 2131 (Part A)

Product Identification Numbers

80-6114-2633-1, 80-6114-6840-8, 80-6116-1242-7

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 1-888-3M HELPS (1-888-364-3577) **Telephone:**

1.4. Emergency telephone number

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

SECTION 2: Hazard identification

2.1. Hazard classification

Serious Eye Damage/Irritation: Category 2A.

Skin Corrosion/Irritation: Category 2. Respiratory Sensitizer: Category 1.

Skin Sensitizer: Category 1.

Specific Target Organ Toxicity (respiratory irritation): Category 3. Specific Target Organ Toxicity (repeated exposure): Category 1.

2.2. Label elements

Signal word

Danger

Symbols

Exclamation mark | Health Hazard |

Pictograms

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Hazard Statements

Causes serious eye irritation.

Causes skin 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 dust/fume/gas/mist/vapors/spray.

Use only outdoors or in a well-ventilated area.

In case of inadequate ventilation wear respiratory protection.

Wear eye/face protection.

Wear protective gloves.

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

Wash thoroughly after handling.

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

Response:

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.

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

2.3. Hazards not otherwise classified

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

25% of the mixture consists of ingredients of unknown acute oral toxicity.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
POLYETHER-HYDROCARBON-URETHANE	154517-54-1	35 - 45 Trade Secret *
POLYMER		

Scotchcast™ Flame-Retardant Compound 2131 (Part A) 11/06/14

P,P'-METHYLENEBIS(PHENYL ISOCYANATE)	101-68-8	25 - 35 Trade Secret *
DIUNDECYL PHTHALATE	3648-20-2	0 - 15
DIUNDECYL PHTHALATE, BRANCHED AND	85507-79-5	0 - 15
LINEAR		
BENZENE, 1,1'-METHYLENEBIS[ISOCYANATO-,	39310-05-9	5 - 15 Trade Secret *
HOMOPOLYMER		
1,1'-METHYLENEBIS(ISOCYANATOBENZENE)	26447-40-5	< 2 Trade Secret *
4-VINYLCYCLOHEXENE	100-40-3	< 0.0005 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:

No need for first aid is anticipated.

Skin Contact:

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

Eve 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

Closed containers exposed to heat from fire may build pressure and explode.

Hazardous Decomposition or By-Products

Substance	<u>Condition</u>
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

No special protective actions for fire-fighters are anticipated.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Evacuate area. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. 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

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. Cover, but do not seal for 48 hours. Dispose of collected material as soon as possible.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

For industrial or professional use only. 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. 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
4-VINYLCYCLOHEXENE	100-40-3	ACGIH	TWA:0.1 ppm	A3: Confirmed animal
				carcin.
4-VINYLCYCLOHEXENE	100-40-3	AIHA	TWA:4.4 mg/m3(1 ppm)	
FREE ISOCYANATES	101-68-8	Manufacturer	TWA:0.005 ppm;STEL:0.02	
		determined	ppm	
P,P'-	101-68-8	ACGIH	TWA:0.005 ppm	
METHYLENEBIS(PHENYL				
ISOCYANATE)				
P,P'-	101-68-8	OSHA	CEIL:0.2 mg/m3(0.02 ppm)	
METHYLENEBIS(PHENYL				

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ISOCYANATE)				
FREE ISOCYANATES	26447-40-5	Manufacturer	TWA:0.005 ppm;STEL:0.02	
		determined	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:

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: Butyl Rubber

Fluoroelastomer 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 – Butyl rubber Apron - polymer laminate

Respiratory protection

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

Half facepiece or full facepiece air-purifying respirator suitable for organic vapors and particulates

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

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

General Physical Form: Liquid

Odor, Color, Grade: Light straw colored liquid with pungent odor.

Odor thresholdNo Data AvailablepHNot ApplicableMelting pointNot Applicable

 $>=300 \, {}^{\circ}F$ **Boiling Point**

>=300 °F [Test Method: Closed Cup] **Flash Point**

Evaporation rate No Data Available Flammability (solid, gas) Not Applicable Flammable Limits(LEL) No Data Available Flammable Limits(UEL) No Data Available **Vapor Pressure** No Data Available **Vapor Density** No Data Available **Density** No Data Available

Specific Gravity 1.08 [*Ref Std:* WATER=1]

Solubility in Water Nil

Solubility- non-water No Data Available Partition coefficient: n-octanol/ water No Data Available **Autoignition temperature** No Data Available **Decomposition temperature** No Data Available Viscosity 700 - 900 centipoise Average particle size No Data Available **Bulk density** No Data Available **Hazardous Air Pollutants** No Data Available No Data Available Molecular weight **Volatile Organic Compounds** No Data Available

Percent volatile

Softening point No Data Available **VOC Less H2O & Exempt Solvents** No Data Available

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

No Data Available

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 target organ effects after inhalation.

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:

May be harmful if swallowed.

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

Target Organ Effects:

Prolonged or repeated exposure may cause:

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

Carcinogenicity:

Ingredient	CAS No.	Class Description	Regulation
4-VINYLCYCLOHEXENE	100-40-3	Grp. 2B: Possible human carc.	International Agency for Research on Cancer

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 2,000 - 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)	Inhalation-		LC50 estimated to be 10 - 20 mg/l
	Vapor		
P,P'-METHYLENEBIS(PHENYL ISOCYANATE)	Dermal	Rabbit	LD50 > 5,000 mg/kg
P,P'-METHYLENEBIS(PHENYL ISOCYANATE)	Inhalation-	Rat	LC50 0.369 mg/l
	Dust/Mist		
	(4 hours)		
P,P'-METHYLENEBIS(PHENYL ISOCYANATE)	Ingestion	Rat	LD50 31,600 mg/kg
DIUNDECYL PHTHALATE	Dermal	Rabbit	LD50 > 7,900 mg/kg
DIUNDECYL PHTHALATE	Ingestion	Rat	LD50 > 15,000 mg/kg
1,1'-METHYLENEBIS(ISOCYANATOBENZENE)	Inhalation-		LC50 estimated to be 10 - 20 mg/l
	Vapor		
1,1'-METHYLENEBIS(ISOCYANATOBENZENE)	Dermal	Rabbit	LD50 > 5,000 mg/kg
1,1'-METHYLENEBIS(ISOCYANATOBENZENE)	Inhalation-	Rat	LC50 0.369 mg/l
	Dust/Mist		
	(4 hours)		
1,1'-METHYLENEBIS(ISOCYANATOBENZENE)	Ingestion	Rat	LD50 31,600 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
P,P'-METHYLENEBIS(PHENYL ISOCYANATE)	official	Irritant
	classifica	
	tion	
1,1'-METHYLENEBIS(ISOCYANATOBENZENE)	official	Irritant
	classifica	
	tion	

Serious Eye Damage/Irritation

Name	Species	Value
P,P'-METHYLENEBIS(PHENYL ISOCYANATE)	official	Severe irritant
	classifica	
	tion	
1,1'-METHYLENEBIS(ISOCYANATOBENZENE)	official	Severe irritant
	classifica	
	tion	

Skin Sensitization

Name	Species	Value
P,P'-METHYLENEBIS(PHENYL ISOCYANATE)	official	Sensitizing
	classifica	
	tion	
1,1'-METHYLENEBIS(ISOCYANATOBENZENE)	official	Sensitizing
	classifica	
	tion	

Respiratory Sensitization

respiratory sensitization		
Name	Species	Value
P,P'-METHYLENEBIS(PHENYL ISOCYANATE)	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
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

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	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 0.004 mg/l	during organogenesi s
1,1'- METHYLENEBIS(ISOCYANATOBENZE NE)	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 0.004 mg/l	during organogenesi s

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Specific Target Organ	1 Oxicity - 3	single exposure				
Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
P,P'- METHYLENEBIS(PHEN YL ISOCYANATE)	Inhalation	respiratory irritation	May cause respiratory irritation	official classifica tion	NOAEL Not available	
1,1'- METHYLENEBIS(ISOCY ANATOBENZENE)	Inhalation	respiratory irritation	May cause respiratory irritation	official classifica tion	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
P,P'- METHYLENEBIS(PHEN YL ISOCYANATE)	Inhalation	respiratory system	Causes damage to organs through prolonged or repeated exposure	Rat	LOAEL 0.004 mg/l	13 weeks
1,1'- METHYLENEBIS(ISOCY ANATOBENZENE)	Inhalation	respiratory system	Causes damage to organs through prolonged or repeated exposure	Rat	LOAEL 0.004 mg/l	13 weeks

Aspiration Hazard

Name	Value

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.

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Incinerate uncured product in a permitted waste incineration facility. Dispose of completely cured (or polymerized) material in a permitted industrial waste facility. As a disposal alternative, utilize an acceptable permitted waste disposal facility. 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

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>
P,P'-METHYLENEBIS(PHENYL	101-68-8	25 - 35
ISOCYANATE)		

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.

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: 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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Document Group: 2.00 28-7666-2 **Version Number: Issue Date:** 02/19/14 06/24/11 **Supercedes Date:**

SECTION 1: Identification

1.1. Product identifier

3MTM ScotchcastTM Flame Retardant Resin 2131 (PART B)

Product Identification Numbers

80-6114-6841-6

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 1-888-3M HELPS (1-888-364-3577) **Telephone:**

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.

Carcinogenicity: Category 2.

2.2. Label elements

Signal word

Danger

Symbols

Corrosion | Health Hazard |

Pictograms

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Hazard Statements

Causes serious eye damage. Suspected of causing cancer.

Precautionary Statements

Prevention:

Obtain special instructions before use.

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

Wear protective gloves and eye/face protection.

Response:

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

Continue rinsing.

 $Immediately\ call\ a\ POISON\ CENTER\ or\ doctor/physician.$

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.

Notes to Physician:

Not applicable

2.3. Hazards not otherwise classified

None.

8% of the mixture consists of ingredients of unknown acute oral toxicity.

52% of the mixture consists of ingredients of unknown acute dermal toxicity.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
HOMOPOLYMER	69102-90-5	20 - 30 Trade Secret *
Bis(pentabromo Phenyl)ethane	84852-53-9	22 - 25 Trade Secret *
DIUNDECYL PHTHALATE, BRANCHED AND	85507-79-5	10 20 Trade Secret *
LINEAR		
CASTOR OIL	8001-79-4	1 - 10 Trade Secret *
DIPROPYLENE GLYCOL	25265-71-8	1 - 10 Trade Secret *
POLYPROPYLENE ETHER DIOL	25322-69-4	1 - 10 Trade Secret *
ANTIMONY PENTAOXIDE	1314-60-9	5 - 10 Trade Secret *
ALUMINUM POTASSIUM SODIUM SILICATE	12736-96-8	1 - 10 Trade Secret *
N,N-DI(2-HYDROXYPROPYL)ANILINE	3077-13-2	1 - 10 Trade Secret *
CARBON BLACK	1333-86-4	1 - 5 Trade Secret *
HYDROCINNAMIC ACID, 3,5-DI-TERT-BUTYL-4-	2082-79-3	< 1.0 Trade Secret *
HYDROXY-, OCTADECYL ESTER		
TRIETHYLENEDIAMINE	280-57-9	< 1.0 Trade Secret *

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Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-,	68909-20-6	0.5 - 1 Trade Secret *
hydrolysis products with silica		

^{*}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.

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

See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required

Not applicable

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

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

5.2. Special hazards arising from the substance or mixture

None inherent in this product.

Hazardous Decomposition or By-Products

<u>Substance</u>	<u>Condition</u>
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion
Oxides of Nitrogen	During Combustion
Oxides of Antimony	During Combustion

5.3. Special protective actions for fire-fighters

No unusual fire or explosion hazards are anticipated.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

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

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regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

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.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

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. Avoid release to the environment. Use personal protective equipment (gloves, respirators, etc.) as required.

7.2. Conditions for safe storage including any incompatibilities

Keep container tightly closed. Keep cool. Store away from heat. Store in a dry place.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

Ingredient	C.A.S. No.	Agency	Limit type	Additional Comments
CARBON BLACK	1333-86-4	Amer Conf of	TWA(inhalable fraction):3	
		Gov. Indust.	mg/m3	
		Hyg.		
CARBON BLACK	1333-86-4	Chemical	TWA:0.5 mg/m3	
		Manufacturer		
		Rec Guid		
CARBON BLACK	1333-86-4	US Dept of	TWA:3.5 mg/m3	
		Labor - OSHA		
HYDROCINNAMIC ACID, 3,5-	2082-79-3	Chemical	TWA:10 mg/m3	
DI-TERT-BUTYL-4-		Manufacturer		
HYDROXY-, OCTADECYL		Rec Guid		
ESTER				
POLYPROPYLENE ETHER	25322-69-4	American	TWA(as aerosol):10 mg/m3	
DIOL		Indust. Hygiene		
		Assoc		

Amer Conf of Gov. Indust. Hyg.: American Conference of Governmental Industrial Hygienists

American Indust. Hygiene Assoc : American Industrial Hygiene Association

Chemical Manufacturer Rec Guid: Chemical Manufacturer's Recommended Guidelines

US Dept of Labor - 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

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8.2.1. Engineering controls

Use with appropriate local exhaust ventilation. Provide appropriate local exhaust ventilation on open containers.

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.

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.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

General Physical Form: Liquid

Odor, Color, Grade: Smooth black liquid with pungent odor.

No Data Available Odor threshold Not Applicable **Melting point** Not Applicable **Boiling Point** $> 290 \, {}^{\circ}\text{F}$

> 290 °F [Test Method: Closed Cup] Flash Point

Evaporation rate No Data Available Flammability (solid, gas) Not Applicable Flammable Limits(LEL) No Data Available Flammable Limits(UEL) No Data Available < 27 psia [@ 131 °F] **Vapor Pressure Vapor Density** No Data Available **Density** No Data Available **Specific Gravity** 1.29 [*Ref Std:* WATER=1]

Solubility in Water

Solubility- non-water No Data Available Partition coefficient: n-octanol/ water No Data Available **Autoignition temperature** No Data Available No Data Available **Decomposition temperature** Viscosity 5,500 centipoise Volatile Organic Compounds No Data Available **VOC Less H2O & Exempt Solvents** No Data Available

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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.

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Carcinogenicity:

Contains a chemical or chemicals which can cause cancer.

Ingredient	C.A.S. 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 4,648.2 mg/kg
HOMOPOLYMER	Dermal		LD50 estimated to be > 5,000 mg/kg
HOMOPOLYMER	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
POLYPROPYLENE ETHER DIOL	Dermal	Rabbit	LD50 > 10,000 mg/kg
POLYPROPYLENE ETHER DIOL	Ingestion	Rat	LD50 1,000 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
CASTOR OIL	Ingestion		LD50 estimated to be > 5,000
DIPROPYLENE GLYCOL	Dermal	Rabbit	LD50 > 5,000 mg/kg
DIPROPYLENE GLYCOL	Ingestion	Rat	LD50 14,800 mg/kg
CARBON BLACK	Dermal	Rabbit	LD50 > 3,000 mg/kg
CARBON BLACK	Ingestion	Rat	LD50 > 8,000 mg/kg
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis	Dermal	Rabbit	LD50 > 5,000 mg/kg
products with silica			
TRIETHYLENEDIAMINE	Dermal	Rabbit	LD50 > 3,200 mg/kg
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis	Inhalation-	Rat	LC50 > 0.691 mg/l
products with silica	Dust/Mist		
	(4 hours)		
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	Ingestion	Rat	LD50 > 5,110 mg/kg
TRIETHYLENEDIAMINE	Inhalation-	Rat	LC50 > 5.05 mg/l
	Dust/Mist		
	(4 hours)		
TRIETHYLENEDIAMINE	Ingestion	Rat	LD50 1,870 mg/kg
HYDROCINNAMIC ACID, 3,5-DI-TERT-BUTYL-4-	Dermal	Rat	LD50 > 2,000 mg/kg
HYDROXY-, OCTADECYL ESTER			
HYDROCINNAMIC ACID, 3,5-DI-TERT-BUTYL-4-	Inhalation-	Rat	LC50 > 1.8 mg/l
HYDROXY-, OCTADECYL ESTER	Dust/Mist		
	(4 hours)		
HYDROCINNAMIC ACID, 3,5-DI-TERT-BUTYL-4-	Ingestion	Rat	LD50 > 5,000 mg/kg
HYDROXY-, OCTADECYL ESTER			

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
N,N-DI(2-HYDROXYPROPYL)ANILINE		Minimal irritation
CASTOR OIL	Human	Minimal irritation
CARBON BLACK	Rabbit	No significant irritation
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	Rabbit	No significant irritation
TRIETHYLENEDIAMINE	Rabbit	Mild irritant
HYDROCINNAMIC ACID, 3,5-DI-TERT-BUTYL-4-HYDROXY-,	Rabbit	Minimal irritation
OCTADECYL ESTER		

Serious Eye Damage/Irritation

Name	Species	Value
N,N-DI(2-HYDROXYPROPYL)ANILINE		Corrosive
CASTOR OIL	Rabbit	Mild irritant
CARBON BLACK	Rabbit	No significant irritation
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	Rabbit	No significant irritation
TRIETHYLENEDIAMINE	Rabbit	Corrosive

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HYDROCINNAMIC ACID, 3,5-DI-TERT-BUTYL-4-HYDROXY-,	Rabbit	Mild irritant
OCTADECYL ESTER		

Skin Sensitization

Name	Species	Value
CASTOR OIL	Human	Some positive data exist, but the data are not
		sufficient for classification
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	Human	Not sensitizing
	and	
	animal	
HYDROCINNAMIC ACID, 3,5-DI-TERT-BUTYL-4-HYDROXY-,	Human	Some positive data exist, but the data are not
OCTADECYL ESTER	and	sufficient for classification
	animal	

Respiratory Sensitization

Name	Species Value	
------	---------------	--

Germ Cell Mutagenicity

Name	Route	Value
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
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	In Vitro	Not mutagenic
HYDROCINNAMIC ACID, 3,5-DI-TERT-BUTYL-4-HYDROXY-,	In Vitro	Not mutagenic
OCTADECYL ESTER		
HYDROCINNAMIC ACID, 3,5-DI-TERT-BUTYL-4-HYDROXY-,	In vivo	Not mutagenic
OCTADECYL ESTER		

Carcinogenicity

eur emogement,			
Name	Route	Species	Value
CARBON BLACK	Dermal	Mouse	Not carcinogenic
CARBON BLACK	Ingestion	Mouse	Not carcinogenic
CARBON BLACK	Inhalation	Rat	Carcinogenic
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis	Not	Mouse	Some positive data exist, but the data are not
products with silica	Specified		sufficient for classification
HYDROCINNAMIC ACID, 3,5-DI-TERT-BUTYL-4-	Ingestion	Mouse	Not carcinogenic
HYDROXY-, OCTADECYL ESTER			

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
CASTOR OIL	Ingestion	Not toxic to female reproduction	Rat	NOAEL 4,800 mg/kg/day	13 weeks
CASTOR OIL	Ingestion	Not toxic to male reproduction	Rat	NOAEL 4,800 mg/kg/day	13 weeks
Silanamine, 1,1,1-trimethyl-N- (trimethylsilyl)-, hydrolysis products with silica	Ingestion	Not toxic to female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
Silanamine, 1,1,1-trimethyl-N- (trimethylsilyl)-, hydrolysis products with silica	Ingestion	Not toxic to male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation
Silanamine, 1,1,1-trimethyl-N- (trimethylsilyl)-, hydrolysis products with silica	Ingestion	Not toxic to development	Rat	NOAEL 1,350 mg/kg/day	during organogenesi s
HYDROCINNAMIC ACID, 3,5-DI-TERT- BUTYL-4-HYDROXY-, OCTADECYL ESTER	Ingestion	Not toxic to female reproduction	Rat	NOAEL 421 mg/kg/day	2 generation
HYDROCINNAMIC ACID, 3,5-DI-TERT- BUTYL-4-HYDROXY-, OCTADECYL	Ingestion	Not toxic to male reproduction	Rat	NOAEL 375 mg/kg/day	2 generation

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ESTER					
HYDROCINNAMIC ACID, 3,5-DI-TERT-	Ingestion	Some positive developmental data exist,	Rat	NOAEL 421	2 generation
BUTYL-4-HYDROXY-, OCTADECYL		but the data are not sufficient for		mg/kg/day	
ESTER		classification			

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure
						Duration

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
CASTOR OIL	Ingestion	heart hematopoietic system liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 4,800 mg/kg/day	13 weeks
CASTOR OIL	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 13,000 mg/kg/day	13 weeks
CARBON BLACK	Inhalation	pneumoconiosis	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
Silanamine, 1,1,1- trimethyl-N- (trimethylsilyl)-, hydrolysis products with silica	Inhalation	respiratory system silicosis	All data are negative	Human	NOAEL Not available	occupational exposure
HYDROCINNAMIC ACID, 3,5-DI-TERT- BUTYL-4-HYDROXY-, OCTADECYL ESTER	Ingestion	liver kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 300 mg/kg/day	28 days
HYDROCINNAMIC ACID, 3,5-DI-TERT- BUTYL-4-HYDROXY-, OCTADECYL ESTER	Ingestion	heart endocrine system respiratory system	All data are negative	Rat	NOAEL 300 mg/kg/day	28 days
HYDROCINNAMIC ACID, 3,5-DI-TERT- BUTYL-4-HYDROXY-, OCTADECYL ESTER	Ingestion	hematopoietic system	All data are negative	Rat	NOAEL 1,000 mg/kg/day	28 days

Aspiration Hazard

3. T		T 7 1
_ I	ame	Value
1.4	anic	v aluc

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

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

Incinerate uncured product in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. As a disposal alternative, utilize an acceptable permitted waste disposal facility. 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

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
ANTIMONY PENTAOXIDE (ANTIMONY	1314-60-9	5 - 10
COMPOUNDS)		

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

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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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