



Material Safety Data Sheet

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SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: SCOTCHCAST BRAND RESIN #4 (PART A & B)

MANUFACTURER: 3M

DIVISION: Electrical Markets Division

ADDRESS: 3M Center
St. Paul, MN 55144-1000

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

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Product Use:

Intended Use: INSULATING AND ENVIRONMENTAL SEALING OF POWER DISTRIBUTION
CABLE SPLICES

Specific Use: ELECTRICAL INSULATING RESIN

SECTION 2: INGREDIENTS

<u>Ingredient</u>	<u>C.A.S. No.</u>	<u>% by Wt</u>
Part A Components listed below are % of mixed resin	None	Not Applicable
Epoxy Resin	25068-38-6	50 - 60
Part B Components listed below are % of mixed resin	Mixture	Not Applicable
NONYLPHENOL	25154-52-3	10 - 20
N-AMINOETHYLPIPERAZINE	140-31-8	3 - 7
HEAVY NAPHTHENIC DISTILLATE SOLVENT PETROLEUM EXTRACTS	64742-11-6	3 - 7
FATTY ACIDS, TALL-OIL, REACTION PRODUCTS WITH	68919-79-9	< 5
TRIETHYLENETETRAMINE		
TALL-OIL FATTY ACIDS, REACTION PRODUCTS WITH TETA AND	Trade Secret	< 5
DGEBA		
amine/epoxy adduct	164907-80-6	< 3
AROMATIC HYDROCARBONS, C12-20	70955-17-8	< 2
TRIS(2,4,6-DIMETHYLAMINOMONOMETHYL)PHENOL	90-72-2	< 2
TRIETHYLENETETRAMINE	112-24-3	0.1 - 1
DIETHYLENETRIAMINE	111-40-0	< 0.1
CARBON BLACK	1333-86-4	< 0.1

Minute quantities of the substances listed below may be emitted during Normal Use:

Substance

Condition

Amine Compounds	Normal Use
Hydrocarbons	Normal Use
Irritant Vapors or Gases	Normal Use
Toxic Vapor, Gas, Particulate	Normal Use

trade secret component above is on TSCA confidential Inventory

SECTION 3: HAZARDS IDENTIFICATION

3.1 EMERGENCY OVERVIEW

Odor, Color, Grade: A: CLEAR AMBER LIQUID B: BLACK LIQUID, AMINE ODOR

General Physical Form: Liquid

Immediate health, physical, and environmental hazards: May cause chemical eye burns. May cause allergic skin reaction. May cause chemical skin burns. May cause chemical gastrointestinal burns. Contains a chemical or chemicals which can cause cancer. May cause target organ effects. Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

3.2 POTENTIAL HEALTH EFFECTS

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.

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

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

Skin Contact:

Corrosive (Skin Burns): Signs/symptoms may include localized redness, swelling, itching, intense pain, blistering, ulceration, and tissue destruction.

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

May be absorbed through skin and cause target organ effects.

Inhalation:

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

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

May be absorbed following inhalation and cause target organ effects.

Ingestion:

Gastrointestinal Corrosion: Signs/symptoms may include severe mouth, throat and abdominal pain; nausea; vomiting; and diarrhea; blood in the feces and/or vomitus may also be seen.

May be absorbed following ingestion and cause target organ effects.

Target Organ Effects:

Central Nervous System (CNS) Depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness.

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

Carcinogenicity:

Contains a chemical or chemicals which can cause cancer.

<u>Ingredient</u>	<u>C.A.S. No.</u>	<u>Class Description</u>	<u>Regulation</u>
CARBON BLACK	1333-86-4	Group 2B	International Agency for Research on Cancer
CARBON BLACK EXTRACTS	NONE	Group 2B	International Agency for Research on Cancer

SECTION 4: FIRST AID MEASURES

4.1 FIRST AID PROCEDURES

The following first aid recommendations are based on an assumption that appropriate personal and industrial hygiene practices are followed.

Eye Contact: Immediately flush eyes with large amounts of water for at least 15 minutes. Get immediate medical attention.

Skin Contact: Remove contaminated clothing and shoes. Immediately flush skin with large amounts of water for at least 15 minutes. Get immediate medical attention. Wash contaminated clothing and clean shoes before reuse.

Inhalation: Remove person to fresh air. If signs/symptoms develop, get medical attention.

If Swallowed: Do not induce vomiting. Give victim two glasses of water. Never give anything by mouth to an unconscious person. Get immediate medical attention.

SECTION 5: FIRE FIGHTING MEASURES

5.1 FLAMMABLE PROPERTIES

Autoignition temperature	<i>No Data Available</i>
Flash Point	≥ 230 °F [<i>Test Method: Closed Cup</i>] [<i>Details: MITS data</i>]
Flammable Limits - LEL	<i>No Data Available</i>
Flammable Limits - UEL	<i>No Data Available</i>
OSHA Flammability Classification:	Class IIIB Combustible Liquid

5.2 EXTINGUISHING MEDIA

Ordinary combustible material. Use fire extinguishers with class A extinguishing agents (e.g., water, foam). Use fire extinguishers with class B extinguishing agents (e.g., dry chemical, carbon dioxide).

5.3 PROTECTION OF FIRE FIGHTERS

Special Fire Fighting Procedures: Water may be used to blanket the fire. Wear full protective equipment (Bunker Gear) and a self-contained breathing apparatus (SCBA).

Unusual Fire and Explosion Hazards: Not applicable. No unusual fire or explosion hazards are anticipated.

Note: See STABILITY AND REACTIVITY (SECTION 10) for hazardous combustion and thermal decomposition

information.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Accidental Release Measures: Observe precautions from other sections. Call 3M- HELPS line (1-800-364-3577) for more information on handling and managing the spill. Evacuate unprotected and untrained personnel from hazard area. The spill should be cleaned up by qualified personnel. 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. Contain spill. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water. 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. Collect as much of the spilled material as possible. Clean up residue. Place in a closed container approved for transportation by appropriate authorities. Dispose of collected material as soon as possible.

In the event of a release of this material, the user should determine if the release qualifies as reportable according to local, state, and federal regulations.

SECTION 7: HANDLING AND STORAGE

7.1 HANDLING

Avoid eye contact. Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water. Contents may be under pressure, open carefully. Avoid breathing of vapors, mists or spray. Avoid breathing of vapors created during cure cycle. Wash hands after handling and before eating. Avoid skin contact with hot material. Avoid eye contact with vapors, mists, or spray. Keep out of the reach of children. Avoid breathing of dust created by cutting, sanding, grinding or machining. For industrial use only. Not intended for use as a medical device or drug. For industrial or professional use only. No smoking: Smoking while using this product can result in contamination of the tobacco and/or smoke and lead to the formation of the hazardous decomposition products mentioned in the Reactivity Data section of this MSDS. Avoid contact with oxidizing agents.

7.2 STORAGE

Store away from acids. Keep container in well-ventilated area. Store away from areas where product may come into contact with food or pharmaceuticals. Store away from oxidizing agents.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 ENGINEERING CONTROLS

Provide appropriate local exhaust ventilation on open containers. Provide ventilated enclosure for heat curing. Provide appropriate local exhaust for molten or extruded material. Provide appropriate local exhaust for cutting, grinding, sanding or machining. Curing enclosures must be exhausted to outdoors or to a suitable emission control device. Provide appropriate local exhaust when product is heated. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below Occupational Exposure Limits and/or control mist, vapor, or spray. If ventilation is not adequate, use respiratory protection equipment.

8.2 PERSONAL PROTECTIVE EQUIPMENT (PPE)

8.2.1 Eye/Face Protection

Avoid eye contact with vapors, mists, or spray.

The following eye protection(s) are recommended: Full Face Shield, Indirect Vented Goggles.

8.2.2 Skin Protection

Wear appropriate gloves, such as Nomex, when handling this material to prevent thermal burns. Avoid skin contact. Avoid skin contact with hot material.

Select and use gloves and/or protective clothing to prevent skin contact based on the results of an exposure assessment. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible materials.

Gloves made from the following material(s) are recommended: Neoprene. The following protective clothing material(s) are recommended: Apron - Neoprene. Wear impervious protective clothing as necessary to prevent skin contact when handling.

8.2.3 Respiratory Protection

Avoid breathing of vapors, mists or spray. Avoid breathing of vapors created during cure cycle. Avoid breathing of dust created by cutting, sanding, grinding or machining.

Select one of the following NIOSH approved respirators based on airborne concentration of contaminants and in accordance with OSHA regulations: Fullface supplied-air respirator. Consult the current 3M Respiratory Selection Guide for additional information or call 1-800-243-4630 for 3M technical assistance.

8.2.4 Prevention of Swallowing

Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water.

8.3 EXPOSURE GUIDELINES

<u>Ingredient</u>	<u>Authority</u>	<u>Type</u>	<u>Limit</u>	<u>Additional Information</u>
CARBON BLACK	ACGIH	TWA	3.5 mg/m3	Table A4
CARBON BLACK	CMRG	TWA	0.5 mg/m3	
CARBON BLACK	OSHA	TWA	3.5 mg/m3	Table Z-1
DIETHYLENETRIAMINE	ACGIH	TWA	1 ppm	Skin Notation*
DIETHYLENETRIAMINE	OSHA	TWA	1 ppm	Skin Notation*; Table Z-1A
TRIETHYLENETETRAMINE	AIHA	TWA	1 ppm	Skin Notation*
TRIS(2,4,6-DIMETHYLAMINOMONOMETHYL)PHENOL	CMRG	TWA	5 ppm	

* Substance(s) refer to the potential contribution to the overall exposure by the cutaneous route including mucous membrane and eye, either by airborne or, more particularly, by direct contact with the substance. Vehicles can alter skin absorption.

SOURCE OF EXPOSURE LIMIT DATA:

ACGIH: American Conference of Governmental Industrial Hygienists

CMRG: Chemical Manufacturer Recommended Guideline

OSHA: Occupational Safety and Health Administration

AIHA: American Industrial Hygiene Association Workplace Environmental Exposure Level (WEEL)

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Odor, Color, Grade:

General Physical Form:

Autoignition temperature

Flash Point

Flammable Limits - LEL

Flammable Limits - UEL

Boiling point

Vapor Density

Vapor Pressure

Specific Gravity

pH

A: CLEAR AMBER LIQUID B: BLACK LIQUID, AMINE ODOR

Liquid

No Data Available

>=230 °F [Test Method: Closed Cup] [Details: MITS data]

No Data Available

No Data Available

>=200 °F

No Data Available

<=27 psia [@ 131.0000000000 °F] [Details: MITS data]

1.1 [Details: MITS data]

Not Applicable

Melting point	No Data Available
Solubility in Water	Negligible
Evaporation rate	No Data Available
Volatile Organic Compounds	No Data Available
Percent volatile	3 - 5 %
VOC Less H2O & Exempt Solvents	No Data Available
Viscosity	3500 - 5000 centipoise [@ 73.4000000000 °F] [Details: MITS data]

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable.

Materials and Conditions to Avoid: Strong acids; Strong bases; Strong oxidizing agents; None known

Hazardous Polymerization: Hazardous polymerization will not occur.

Hazardous Decomposition or By-Products

<u>Substance</u>	<u>Condition</u>
Aldehydes	Oxidative Degradation
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion
Oxides of Nitrogen	During Combustion
Toxic Vapor, Gas, Particulate	During Combustion

SECTION 11: TOXICOLOGICAL INFORMATION

Please contact the address listed on the first page of the MSDS for Toxicological Information on this material and/or its components.

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

Not determined.

CHEMICAL FATE INFORMATION

Not determined.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal Method: Incinerate in an industrial or commercial facility in the presence of a combustible material. As a disposal alternative, dispose of waste product in a facility permitted to accept chemical waste.

EPA Hazardous Waste Number (RCRA): Not regulated

Since regulations vary, consult applicable regulations or authorities before disposal.

SECTION 14: TRANSPORT INFORMATION**ID Number(s):**

78-8111-0945-9, 78-8111-0947-5, 78-8111-0948-3, 78-8111-0949-1, 78-8111-0950-9, 78-8111-0951-7, 80-6109-7349-9, 80-6109-8166-6, 80-6109-8167-4, 80-6109-8168-2, 80-6109-8169-0, 80-6109-8170-8, 80-6109-8171-6, 80-6109-8241-7, 80-6109-8242-5, 80-6112-1861-3, 80-6112-1862-1, 80-6112-1863-9, 80-6112-1864-7, 80-6112-1866-2, 80-6112-1867-0, 80-6112-1868-8

Please contact the emergency numbers listed on the first page of the MSDS for Transportation Information for this material.

SECTION 15: REGULATORY INFORMATION**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

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

<u>Ingredient (Category if applicable)</u>	<u>C.A.S. No</u>	<u>Regulation</u>	<u>Status</u>
DIETHYLENETRIAMINE	111-40-0	Toxic Substances Control Act (TSCA) 4 Test Rule Chemicals	Applicable

STATE REGULATIONS

Contact 3M for more information.

CALIFORNIA PROPOSITION 65

<u>Ingredient</u>	<u>C.A.S. No.</u>	<u>Classification</u>
CARBON BLACK	1333-86-4	**Carcinogen
CARBON BLACK EXTRACTS	NONE	**Carcinogen

** WARNING: contains a chemical which can cause cancer.

CHEMICAL INVENTORIES

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

All applicable chemical ingredients in this material are listed on the European Inventory of Existing Chemical Substances (EINECS), or are exempt polymers whose monomers are listed on EINECS.

The components of this product are listed on the Australian Inventory of Chemical Substances.

All the components of this product are listed on China's Inventory of Chemical Substances.

The components of this product are listed on the Canadian Domestic Substances List.

Contact 3M for more information.

INTERNATIONAL REGULATIONS

Contact 3M for more information.

This MSDS 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 **Reactivity:** 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 **Reactivity:** 0 **Protection:** B

Hazardous Material Identification System (HMIS®) 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® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint and Coatings Association (NPCA).

Reason for Reissue: The MSDS has been revised because 3M has adopted the 16-section ANSI/ISO format. The potential hazards of the product have not changed. We encourage you to reread the MSDS and review the information.

Revision Changes:

Copyright was modified.

Section 2: Ingredient table was modified.

Section 15: California proposition 65 ingredient information was modified.

Section 3: Carcinogenicity table was modified.

Section 2: Ingredients comment was added.

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