3M MATERIAL SAFETY DATA SHEET 3M Super 33+ and Super 88 and 15 Vinyl Electrical Tape-No Lead 10/25/2004

Material Safety Data Sheet

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This material safety data sheet (MSDS) is provided as a courtesy in response to a customer request. This product is not regulated under, and a MSDS is not required for this product by the OSHA Hazard Communication Standard (29 CFR 1910.1200) because, when used as recommended or under ordinary conditions, it should not present a health and safety hazard. However, use or processing of the product not in accordance with the product’s recommendations or not under ordinary conditions may affect the performance of the product and may present potential health and safety hazards.

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: 3M Super 33+ and Super 88 and 15 Vinyl Electrical Tape-No Lead
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)

Issue Date: 10/25/2004
Supersedes Date: 12/13/2001
Document Group: 16-6314-5

Product Use: Intended Use: Electrical

SECTION 2: INGREDIENTS

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>C.A.S. No.</th>
<th>% by Wt</th>
</tr>
</thead>
<tbody>
<tr>
<td>POLY(VINYL CHLORIDE)</td>
<td>9002-86-2</td>
<td>40 - 50</td>
</tr>
<tr>
<td>POLYESTER ADIPATE</td>
<td>Trade Secret</td>
<td>15 - 25</td>
</tr>
<tr>
<td>REACTION PRODUCTS OF P-TERT-BUTYLPHENOL-FORMALDEHYDE</td>
<td>70983-52-7</td>
<td>10 - 20</td>
</tr>
<tr>
<td>RESIN WITH CIS-1,4-POLYISOPRENE</td>
<td>31393-98-3</td>
<td>5 - 10</td>
</tr>
<tr>
<td>BICYCLO[3.1.1]HEPT-2-ENE,2,6,6-TRIMETHYL-,POLYMER WITH 6,6-DIMETHYL-2-METHYLENEBICYCLO[3.1.1]HEPTANE</td>
<td>68478-07-9</td>
<td>1 - 5</td>
</tr>
<tr>
<td>NAPHTHA, LIGHT STEAM-CRACKED AROM., PIPERYLENE CONC., POLYMD.</td>
<td>9003-55-8</td>
<td>1 - 5</td>
</tr>
<tr>
<td>STYRENE-BUTADIENE POLYMER</td>
<td>8013-07-8</td>
<td>1 - 3</td>
</tr>
<tr>
<td>EPoxidized SOYBEAN OIL</td>
<td>68515-48-0</td>
<td>2 - 3</td>
</tr>
<tr>
<td>Dl-C8-10-BRANCHED ALKYL PHTHALATE, C9 RICH</td>
<td>1333-86-4</td>
<td>1 - 3</td>
</tr>
<tr>
<td>CARBON BLACK</td>
<td>1309-64-4</td>
<td>1 - 3</td>
</tr>
<tr>
<td>ANTIMONY TRIoxide</td>
<td>25085-50-1</td>
<td>&lt; 2</td>
</tr>
<tr>
<td>P-TERT-BUTYLPHENOL-FORMALDEHYDE RESIN</td>
<td>Trade Secret</td>
<td>1 - 2</td>
</tr>
<tr>
<td>BARIUM-ZINC CARBOXYLATE STABILIZER</td>
<td>7440-38-2</td>
<td>&lt; 0.01</td>
</tr>
<tr>
<td>ARSENIC</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
SECTION 3: HAZARDS IDENTIFICATION

3.1 EMERGENCY OVERVIEW

Specific Physical Form: Roll of Tape
Odor, Color, Grade: Black adhesive tape, slight odor.
General Physical Form: Solid
Immediate health, physical, and environmental hazards: Contact with aluminum or zinc in a pressurized system may generate hydrogen gas which could create an explosion hazard.

The environmental properties of this product present a low environmental hazard. Contains a chemical or chemicals which can cause cancer. This product, when used under reasonable conditions and in accordance with the 3M directions for use, should not present a health hazard. However, use or processing of the product in a manner not in accordance with the product's directions for use may affect the performance of the product and may present potential health and safety hazards.

3.2 POTENTIAL HEALTH EFFECTS

Eye Contact:
No health effects are expected.

Skin Contact:
No health effects are expected.

Inhalation:
No health effects are expected.
If thermal decomposition occurs:
Upper Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

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

Carcinogenicity:
Contains a chemical or chemicals which can cause cancer.

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>C.A.S. No.</th>
<th>Class Description</th>
<th>Regulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTIMONY TRIOXIDE</td>
<td>1309-64-4</td>
<td>Group 2B</td>
<td>International Agency for Research on Cancer</td>
</tr>
<tr>
<td>ARSENIC</td>
<td>7440-38-2</td>
<td>Group 1</td>
<td>International Agency for Research on Cancer</td>
</tr>
<tr>
<td>ARSENIC COMPOUNDS</td>
<td>7440-38-2</td>
<td>Known human carcinogen</td>
<td>National Toxicology Program Carcinogens</td>
</tr>
<tr>
<td>CARBON BLACK</td>
<td>NONE</td>
<td>Group 1</td>
<td>International Agency for Research on Cancer</td>
</tr>
<tr>
<td>CARBON BLACK EXTRACTS</td>
<td>1333-86-4</td>
<td>Group 2B</td>
<td>International Agency for Research on Cancer</td>
</tr>
<tr>
<td>LEAD</td>
<td>7439-92-1</td>
<td>Group 2B</td>
<td>International Agency for Research on Cancer</td>
</tr>
</tbody>
</table>

3.3 POTENTIAL ENVIRONMENTAL EFFECTS

This substance does not leach metals or other RCRA (Resource Conservation and Recovery Act) listed TCLP (Toxic Characteristic Leaching Procedure) hazardous substances at concentrations that would make the product a hazardous waste.

SECTION 4: FIRST AID MEASURES
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: Flush eyes with large amounts of water. If signs/symptoms persist, get medical attention.

Skin Contact: Wash affected area with soap and water. If signs/symptoms develop, get medical attention.

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
Flash Point
Flammable Limits - LEL
Flammable Limits - UEL
OSHA Flammability Classification:

No Data Available
Not Applicable
No Data Available
No Data Available
Not Applicable

5.2 EXTINGUISHING MEDIA

Use fire extinguishers with class B extinguishing agents (e.g., dry chemical, carbon dioxide).

5.3 PROTECTION OF FIRE FIGHTERS

Special Fire Fighting Procedures: 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. Contact with aluminum or zinc in a pressurized system may generate hydrogen gas which could create an explosion hazard.

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

SECTION 6: ACCIDENTAL RELEASE MEASURES

Accidental Release Measures: Not applicable.

SECTION 7: HANDLING AND STORAGE

7.1 HANDLING

Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water. Keep away from aluminum and zinc. Avoid prolonged or repeated skin contact. Avoid breathing of fumes. 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. This product is considered to be an article which does not release or otherwise result in exposure to a hazardous chemical under normal use conditions. Avoid contact with oxidizing agents.
2 STORAGE
Not applicable. Store away from oxidizing agents.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 ENGINEERING CONTROLS
Use with appropriate local exhaust ventilation. Not applicable. Provide appropriate local exhaust for cutting, grinding, sanding or machining. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below Occupational Exposure Limits and/or control dust, fume, or airborne particles. If ventilation is not adequate, use respiratory protection equipment.

8.2 PERSONAL PROTECTIVE EQUIPMENT (PPE)

8.2.1 Eye/Face Protection
Not applicable. Avoid eye contact with vapors, mists, or spray.

8.2.2 Skin Protection
Not applicable. Gloves not normally required. Avoid prolonged or repeated skin contact.

8.2.3 Respiratory Protection
Avoid breathing of fumes. Avoid breathing of dust created by cutting, sanding, grinding or machining.

8.2.4 Prevention of Swallowing
Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water. Not applicable.

8.3 EXPOSURE GUIDELINES

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Authority</th>
<th>Type</th>
<th>Limit</th>
<th>Additional Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTIMONY COMPOUNDS</td>
<td>ACGIH</td>
<td>TWA, as Sb</td>
<td>0.5 mg/m³</td>
<td>Table Z-1A</td>
</tr>
<tr>
<td>ANTIMONY COMPOUNDS</td>
<td>OSHA</td>
<td>TWA, as Sb</td>
<td>0.5 mg/m³</td>
<td></td>
</tr>
<tr>
<td>ANTIMONY TRIOXIDE</td>
<td>ACGIH</td>
<td>TWA</td>
<td>0.5 mg/m³</td>
<td></td>
</tr>
<tr>
<td>ARSENIC</td>
<td>OSHA</td>
<td>TWA</td>
<td>0.01 mg/m³</td>
<td>Table A1</td>
</tr>
<tr>
<td>ARSENIC</td>
<td>ACGIH</td>
<td>TWA</td>
<td>0.01 mg/m³</td>
<td></td>
</tr>
<tr>
<td>CARBON BLACK</td>
<td>ACGIH</td>
<td>TWA</td>
<td>3.5 mg/m³</td>
<td>Table A4</td>
</tr>
<tr>
<td>CARBON BLACK</td>
<td>CMRG</td>
<td>TWA</td>
<td>0.5 mg/m³</td>
<td></td>
</tr>
<tr>
<td>DI-C8-10-BRANCHED ALKYL</td>
<td>OSHA</td>
<td>TWA</td>
<td>3.5 mg/m³</td>
<td></td>
</tr>
<tr>
<td>PHTHALATE, C9 RICH</td>
<td>CMRG</td>
<td>TWA</td>
<td>5 mg/m³</td>
<td></td>
</tr>
<tr>
<td>LEAD</td>
<td>ACGIH</td>
<td>TWA, as total dust</td>
<td>0.05 mg/m³</td>
<td>Table A3</td>
</tr>
<tr>
<td>STEARATES</td>
<td>ACGIH</td>
<td>TWA</td>
<td>10 mg/m³</td>
<td>Table A4</td>
</tr>
</tbody>
</table>

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

Specific Physical Form: Roll of Tape
Odor, Color, Grade: Black adhesive tape, slight odor.
General Physical Form: Solid
Autoignition temperature No Data Available
Flash Point Not Applicable
Flammable Limits - LEL No Data Available
Flammable Limits - UEL No Data Available
Boiling point  
Vapor Density  
Vapor Pressure  
Specific Gravity  
pH  
Melting point  
Solubility in Water  
Evaporation rate  
Volatile Organic Compounds  
Percent volatile  
VOC Less H2O & Exempt Solvents  
Viscosity  

Not Applicable  
Not Applicable  
Not Applicable  
1.22 g/ml  
Not Applicable  
No Data Available  
Nil  
Not Applicable  
No Data Available  
Not Applicable  
Not Applicable

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable.

Materials and Conditions to Avoid: Strong oxidizing agents; None known; Finely divided active metals; Alkali and alkaline earth metals; Reactions with metals in powder form occur from 370 degrees C onwards.

Hazardous Polymerization: Hazardous polymerization will not occur.

Hazardous Decomposition or By-Products

<table>
<thead>
<tr>
<th>Substance</th>
<th>Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrocarbons</td>
<td>Not Specified</td>
</tr>
<tr>
<td>Carbon monoxide</td>
<td>Not Specified</td>
</tr>
<tr>
<td>Carbon dioxide</td>
<td>Not Specified</td>
</tr>
<tr>
<td>Hydrogen Chloride</td>
<td>Not Specified</td>
</tr>
<tr>
<td>Irritant Vapors or Gases</td>
<td>Not Specified</td>
</tr>
<tr>
<td>Oxides of Antimony</td>
<td>Not Specified</td>
</tr>
<tr>
<td>Oxides of Zinc</td>
<td>Not Specified</td>
</tr>
</tbody>
</table>

Hazardous Decomposition: Under recommended usage conditions, hazardous decomposition products are not expected. Hazardous decomposition products may occur as a result of oxidation, heating, or reaction with another material.

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 applicable.

CHEMICAL FATE INFORMATION
Not applicable.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal Method: Reclaim if feasible. If product can't be reclaimed, dispose of waste product in a sanitary landfill. Alternatively, incinerate the waste product in an industrial, commercial, or municipal incinerator.

EPA Hazardous Waste Number (RCRA): Not regulated

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

SECTION 14: TRANSPORT INFORMATION

ID Number(s):
80-6108-3383-4, 80-6112-6706-5, 80-6112-6707-3

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 - No Delayed Hazard - Yes

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

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>C.A.S. No</th>
<th>% by Wt</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTIMONY TRIOXIDE (ANTIMONY COMPOUNDS)</td>
<td>1309-64-4</td>
<td>1 - 3</td>
</tr>
</tbody>
</table>

STATE REGULATIONS

Contact 3M for more information.

CALIFORNIA PROPOSITION 65

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>C.A.S. No</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTIMONY TRIOXIDE</td>
<td>1309-64-4</td>
<td>**Carcinogen</td>
</tr>
<tr>
<td>ARSENIC</td>
<td>7440-38-2</td>
<td>**Carcinogen</td>
</tr>
<tr>
<td>CARBON BLACK</td>
<td>1333-86-4</td>
<td>**Carcinogen</td>
</tr>
<tr>
<td>CARBON BLACK EXTRACTS</td>
<td>NONE</td>
<td>**Carcinogen</td>
</tr>
<tr>
<td>LEAD</td>
<td>7439-92-1</td>
<td>*Female reproductive toxin</td>
</tr>
<tr>
<td>LEAD</td>
<td>7439-92-1</td>
<td>*Male reproductive toxin</td>
</tr>
<tr>
<td>LEAD</td>
<td>7439-92-1</td>
<td>**Carcinogen</td>
</tr>
<tr>
<td>LEAD</td>
<td>7439-92-1</td>
<td>*Developmental Toxin</td>
</tr>
<tr>
<td>LEAD COMPOUNDS</td>
<td>NONE</td>
<td>*Female reproductive toxin</td>
</tr>
<tr>
<td>LEAD COMPOUNDS</td>
<td>NONE</td>
<td>*Male reproductive toxin</td>
</tr>
<tr>
<td>LEAD COMPOUNDS</td>
<td>NONE</td>
<td>**Carcinogen</td>
</tr>
</tbody>
</table>
LEAD COMPOUNDS

NONE

*Developmental Toxin

* WARNING: contains a chemical or chemicals which can cause birth defects or other reproductive harm.
** 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.

This product is an article as defined by TSCA regulations, and is exempt from TSCA Inventory listing requirements.

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: 1 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: 1 Flammability: 1 Reactivity: 0 Protection: A

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).

No revision information is available.

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