Material Safety Data Sheet

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SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

MANUFACTURER: 3M
DIVISION: Abrasives Systems Division
ADDRESS: 3M Center
St. Paul, MN 55144-1000

Issue Date: 03/01/10
Supercedes Date: 11/04/09
Document Group: 11-6770-9

Product Use:
Intended Use: Abrasive Product

SECTION 2: INGREDIENTS

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>C.A.S. No.</th>
<th>% by Wt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polyester or Cotton Cloth</td>
<td>7440-02-0</td>
<td>15 - 60</td>
</tr>
<tr>
<td>Nickel</td>
<td>Trade Secret</td>
<td>10 - 20</td>
</tr>
<tr>
<td>Cured Adhesive</td>
<td>7782-40-3</td>
<td>0.2 - 15</td>
</tr>
<tr>
<td>Diamond</td>
<td>Mixture</td>
<td>0 - 10</td>
</tr>
<tr>
<td>PSA</td>
<td>Mixture</td>
<td>0 - 10</td>
</tr>
<tr>
<td>Nylon Loop</td>
<td>Mixture</td>
<td>0 - 5</td>
</tr>
<tr>
<td>Roloc™ Button</td>
<td>Mixture</td>
<td>0 - 5</td>
</tr>
</tbody>
</table>

SECTION 3: HAZARDS IDENTIFICATION

3.1 EMERGENCY OVERVIEW

Odor, Color, Grade: Abrasive product, no odor
General Physical Form: Solid
Immediate health, physical, and environmental hazards: May cause allergic skin reaction. May cause allergic respiratory reaction. The environmental properties of this product present a low environmental hazard. This document covers only the 3M product. For complete assessment, when determining the degree of hazard, the material being abraded must also be considered.

3.2 POTENTIAL HEALTH EFFECTS

Eye Contact:
Mechanical eye irritation: Signs/symptoms may include pain, redness, tearing and corneal abrasion.

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

Mechanical Skin irritation: Signs/symptoms may include abrasion, redness, pain, and itching.

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

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.

Ingestion:
No health effects are expected.

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>Nickel</td>
<td>7440-02-0</td>
<td>Grp. 2B: Possible human carc.</td>
<td>International Agency for Research on Cancer</td>
</tr>
<tr>
<td>Nickel</td>
<td>7440-02-0</td>
<td>Anticipated human carcinogen</td>
<td>National Toxicology Program Carcinogens</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
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:** Flush eyes with large amounts of water. If signs/symptoms persist, get medical attention.

**Skin Contact:** Remove contaminated clothing and shoes. Immediately flush skin with large amounts of water. Get 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:** No need for first aid is anticipated.

### SECTION 5: FIRE FIGHTING MEASURES

#### 5.1 FLAMMABLE PROPERTIES

- **Autoignition temperature:** Not Applicable
- **Flash Point:** Not Applicable
- **Flammable Limits - LEL:** Not Applicable
- **Flammable Limits - UEL:** Not Applicable

#### 5.2 EXTINGUISHING MEDIA

Ordinary combustible material. Use fire extinguishers with class A extinguishing agents (e.g., water, foam).

#### 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. None inherent in this product.

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

### SECTION 6: ACCIDENTAL RELEASE MEASURES

Accidental Release Measures:

Not applicable.

_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
For industrial or professional use only. Avoid breathing of dust created by sanding, grinding or machining. Avoid eye contact with dust or airborne particles. Damaged product can break apart during use and cause serious injury to face or eyes. Check product for damage such as cracks or nicks prior to use. Replace if damaged. Always wear eye and face protection when working at sanding or grinding operations or when near such operations. Sparks and particles flying from the product during sanding or grinding can cause injury and fire.

7.2 STORAGE
Store in a cool place.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 ENGINEERING CONTROLS
Provide appropriate local exhaust ventilation for sanding, grinding or machining. Do not use in a confined area or areas with little or no air movement. 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
Avoid eye contact. To minimize the risk of injury to face and eyes, always wear eye and face protection when working at sanding or grinding operations or when near such operations. The following eye protection(s) are recommended: Safety Glasses with side shields.

8.2.2 Skin Protection
Avoid skin contact. Wear appropriate gloves to minimize risk of injury to skin from contact with dust or physical abrasion from grinding or sanding.

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, Nitrile Rubber.

8.2.3 Respiratory Protection
Avoid breathing of dust created by sanding, grinding or machining. Assess exposure concentrations of all materials involved in the work process. Consider material being abraded when determining the appropriate respiratory protection. Select and use appropriate respirators to prevent inhalation overexposure.

Select one of the following NIOSH approved respirators based on airborne concentration of contaminants and in accordance with OSHA regulations: Half facepiece or fullface air-purifying respirator with N95 particulate filters. 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
Not an expected route of exposure. Wash hands after handling and before eating.

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>Nickel</td>
<td>ACGIH</td>
<td>TWA, inhalable fraction</td>
<td>1.5 mg/m3</td>
<td></td>
</tr>
<tr>
<td>Nickel</td>
<td>OSHA</td>
<td>TWA, as Ni</td>
<td>1 mg/m3</td>
<td></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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Odor, Color, Grade:</td>
<td>Abrasive product, no odor</td>
</tr>
<tr>
<td>General Physical Form:</td>
<td>Solid</td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Flash Point</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Flammable Limits - LEL</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Flammable Limits - UEL</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Boiling point</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>Nil</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>Nil</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>No Data Available</td>
</tr>
<tr>
<td>pH</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Melting point</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Solubility In Water</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Kow - Oct/Water partition coef</td>
<td>Not Applicable</td>
</tr>
</tbody>
</table>

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable.

Materials and Conditions to Avoid:
10.1 Conditions to avoid
None known
10.2 Materials to avoid
None known

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>Carbon monoxide</td>
<td>During Combustion</td>
</tr>
<tr>
<td>Carbon dioxide</td>
<td>During Combustion</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 determined.

CHEMICAL FATE INFORMATION

Not determined.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal Method: The substrate that was abraded must be considered as a factor in the disposal method for this product. Dispose of waste product in a sanitary landfill. 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

Not regulated per U.S. DOT, IATA or IMO.

These transportation classifications are provided as a customer service. As the shipper YOU remain responsible for complying with all applicable laws and regulations, including proper transportation classification and packaging. 3M’s transportation classifications are based on product formulation, packaging, 3M policies and 3M’s understanding of applicable current regulations. 3M does not guarantee the accuracy of this classification information. This information applies only to transportation classification and not the packaging, labeling, or marking requirements. The original 3M package is certified for U.S. ground shipment only. If you are shipping by air or ocean, the package may not meet applicable regulatory requirements.

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

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

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<td>15 - 60</td>
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STATE REGULATIONS
Contact 3M for more information.

CHEMICAL INVENTORIES
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.

WHMIS: Hazardous

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: 2 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.
Revision Changes:
Copyright was modified.
Section 2: Ingredient table was modified.
Section 8: Exposure guidelines ingredient information was modified.
Section 3: Carcinogenicity table was modified.

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