Material Safety Data Sheet

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SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: 3M(TM) Fastbond(TM) Contact Adhesive 2000-NF Neutral
MANUFACTURER: 3M
DIVISION: Industrial Adhesives and Tapes Division
ADDRESS: 3M Center
St. Paul, MN 55144-1000

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

Issue Date: 09/08/2008
Supercedes Date: 11/09/2001
Document Group: 06-5281-8

Product Use:
Specific Use: Contact Adhesive
Intended Use: Industrial use

SECTION 2: INGREDIENTS

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>C.A.S. No.</th>
<th>% by Wt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>30 - 60</td>
</tr>
<tr>
<td>Polychloroprene</td>
<td>9010-98-4</td>
<td>25 - 50</td>
</tr>
<tr>
<td>Glycerol Esters of Rosin Acids</td>
<td>8050-31-5</td>
<td>5 - 10</td>
</tr>
<tr>
<td>Rosin, Polymer with Phenol</td>
<td>68083-03-4</td>
<td>3 - 7</td>
</tr>
<tr>
<td>Toluene</td>
<td>108-88-3</td>
<td>1 - 3</td>
</tr>
<tr>
<td>Methyl Alcohol</td>
<td>67-56-1</td>
<td>1 - 2.5</td>
</tr>
<tr>
<td>2,2'-Methylenebis[6-tert-Butyl-p-Cresol]</td>
<td>119-47-1</td>
<td>0.1 - 1</td>
</tr>
<tr>
<td>Zinc Oxide</td>
<td>1314-13-2</td>
<td>1 - 2</td>
</tr>
<tr>
<td>Rosin</td>
<td>8050-09-7</td>
<td>0.1 - 1</td>
</tr>
</tbody>
</table>

SECTION 3: HAZARDS IDENTIFICATION

3.1 EMERGENCY OVERVIEW

Odor, Color, Grade: Neutral, slight odor of ammonia.
General Physical Form: Liquid
Immediate health, physical, and environmental hazards: May cause allergic skin reaction. 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:
Mild Eye Irritation: Signs/symptoms may include redness, pain, and tearing.

Skin Contact:
Mild Skin Irritation: Signs/symptoms may include localized redness, swelling, and itching.
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.

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.

May be absorbed following inhalation and cause target organ effects.

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

May be absorbed following ingestion and cause target organ effects.

Target Organ Effects:
May cause blindness.

Prolonged or repeated exposure may cause:
   Ocular Effects: Signs/symptoms may include blurred or significantly impaired vision.
   Auditory Effects: Signs/symptoms may include hearing impairment, balance dysfunction and ringing in the ears.
   Central Nervous System (CNS) Depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness.
   Olfactory Effects: Signs/symptoms may include decreased ability to detect odors and/or complete loss of smell.
   Neurological Effects: Signs/symptoms may include personality changes, lack of coordination, sensory loss, tingling or numbness of the extremities, weakness, tremors, and/or changes in blood pressure and heart rate.

Contains a chemical or chemicals which can cause birth defects or other reproductive harm.
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:** Do not induce vomiting unless instructed to do so by medical personnel. Give victim two glasses of water. Never give anything by mouth to an unconscious person. Get medical attention.

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

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:** 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. Dilute in a large excess of water. Carefully, and with stirring, add appropriate dilute acid such as sulfamic acid or vinegar. Confirm neutrality. For large spills, if necessary, get assistance from professional spill clean up team. For small spills, carefully neutralize spill by adding appropriate dilute acid such as vinegar. Work slowly to avoid boiling or spattering. Continue to add neutralizing agent until reaction stops. Let cool before collecting. Or use a
commercially available caustic (alkaline or basic) spill clean-up kit. Follow kit directions exactly. 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 with detergent and water. Collect the resulting residue containing solution. Place in a closed container approved for transportation by appropriate authorities. Cover, but do not seal for 48 hours. 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. Avoid breathing of vapors, mists or spray. Avoid skin contact. For industrial or professional use only. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below Occupational Exposure Limits. If ventilation is not adequate, use respiratory protection equipment.

7.2 STORAGE
Store away from acids. Store away from heat. Store out of direct sunlight. Keep container in well-ventilated area.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 ENGINEERING CONTROLS
Use with appropriate local exhaust ventilation. Provide appropriate local exhaust ventilation on open containers.

8.2 PERSONAL PROTECTIVE EQUIPMENT (PPE)

8.2.1 Eye/Face Protection
Avoid eye contact.
The following eye protection(s) are recommended: Safety Glasses with side shields.

8.2.2 Skin Protection
Avoid skin contact.
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: Nitrile Rubber, Polyethylene/Ethylene Vinyl Alcohol.

8.2.3 Respiratory Protection
Under normal use conditions, airborne exposures are not expected to be significant enough to require respiratory protection. 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 organic vapor cartridges and N95 particulate prefilters. 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

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Authority</th>
<th>Type</th>
<th>Limit</th>
<th>Additional Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methyl Alcohol</td>
<td>ACGIH</td>
<td>TWA</td>
<td>200 ppm</td>
<td>Skin Notation*</td>
</tr>
</tbody>
</table>
Methyl Alcohol
ACGIH STEL 250 ppm Skin Notation*
Methyl Alcohol
OSHA TWA 200 ppm Skin Notation*; Table Z-1A
Methyl Alcohol
OSHA STEL 250 ppm Skin Notation*; Table Z-1A
Toluene
ACGIH TWA 20 ppm Table A4
Toluene
CMRG STEL 75 ppm Skin Notation*
Toluene
OSHA TWA, Vacated 100 ppm
Toluene
OSHA STEL, Vacated 150 ppm
Toluene
OSHA TWA 200 ppm Table Z-2
Toluene
OSHA CEIL 300 ppm Table Z-2
Zinc Oxide
ACGIH TWA, respirable 2 mg/m3
Zinc Oxide
ACGIH STEL 10 mg/m3
Zinc Oxide
OSHA TWA, as fume 5 mg/m3 Table Z-1
Zinc Oxide
OSHA TWA, respirable 5 mg/m3 Table Z-1
Zinc Oxide
OSHA STEL, Vacated, as fume 10 mg/m3
Zinc Oxide
OSHA TWA, Vacated, as dust 10 mg/m3
Zinc Oxide
OSHA TWA, as total dust 15 mg/m3 Table Z-1

* 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.

VAC Vacated PEL: Vacated Permissible Exposure Limits [PEL] are enforced as the OSHA PEL in some states. Check with your local regulatory agency.

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: Neutral, slight odor of ammonia.
General Physical Form: Liquid
Autoignition temperature Not Applicable
Flash Point Not Applicable
Flammable Limits - LEL Not Applicable
Flammable Limits - UEL Not Applicable
Boiling point >=64 °C [Details: Methanol]
Density 1.1 g/ml
Vapor Density 1.1 [Ref Std: AIR=1]
Vapor Pressure <=17.5 mmHg [@ 68 °F]
Specific Gravity 1.1 [Ref Std: WATER=1]
PH 10
Melting point Not Applicable
Solubility in Water Complete
Evaporation rate 1.0 [Ref Std: ETHER=1]
Hazardous Air Pollutants 0.09 lb HAPS/lb solids [Test Method: Calculated]
Volatile Organic Compounds 37 g/l [Test Method: tested per EPA method 24]
Percent volatile 40 - 50 % weight
VOC Less H2O & Exempt Solvents 77 g/l [Test Method: tested per EPA method 24]
Viscosity: 200 - 600 centipoise [\textdegree 73.4 \textdegree F]

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable.

Materials and Conditions to Avoid: Strong acids

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>Formaldehyde</td>
<td>During Combustion</td>
</tr>
<tr>
<td>Carbon monoxide</td>
<td>During Combustion</td>
</tr>
<tr>
<td>Carbon dioxide</td>
<td>During Combustion</td>
</tr>
</tbody>
</table>

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. Combustion products will include HCl. Facility must be capable of handling halogenated materials.

EPA Hazardous Waste Number (RCRA): Not regulated

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

SECTION 14: TRANSPORT INFORMATION
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

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>Toluene</td>
<td>108-88-3</td>
<td>1 - 3</td>
</tr>
<tr>
<td>Methyl Alcohol</td>
<td>67-56-1</td>
<td>1 - 2.5</td>
</tr>
<tr>
<td>Zinc Oxide (ZINC COMPOUNDS)</td>
<td>1314-13-2</td>
<td>1 - 2</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>Toluene</td>
<td>108-88-3</td>
<td>*Developmental Toxin</td>
</tr>
</tbody>
</table>

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

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.

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: 0  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.

No revision information is available.

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