Material Safety Data Sheet

Copyright, 2003, 3M Company. All rights reserved. Copying and/or downloading of this information for the purpose of properly utilizing 3M products is allowed provided that: (1) the information is copied in full with no changes unless prior written agreement is obtained from 3M, and (2) neither the copy nor the original is resold or otherwise distributed with the intention of earning a profit thereon.

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: D Cell Nickel Cadmium Battery, 4.8 VDC
MANUFACTURER: 3M
DIVISION: Occupational Health & Environ. Safety

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

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

Issue Date: 05/30/2003
Supersedes Date: 04/08/2003

Document Group: 08-6098-1

Product Use:
Intended Use: Battery

SECTION 2: INGREDIENTS

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>C.A.S. No.</th>
<th>% by Wt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nickel &amp; Nickel Hydroxide</td>
<td>Unknown</td>
<td>20 - 32</td>
</tr>
<tr>
<td>Cadmium &amp; Cadmium Hydroxide</td>
<td>Unknown</td>
<td>13 - 22</td>
</tr>
<tr>
<td>Sodium Hydroxide</td>
<td>Unknown</td>
<td>0 - 4</td>
</tr>
<tr>
<td>Potassium Hydroxide</td>
<td>Unknown</td>
<td>0 - 4</td>
</tr>
<tr>
<td>Cobalt Hydroxide</td>
<td>Unknown</td>
<td>0.5 - 2</td>
</tr>
</tbody>
</table>

SECTION 3: HAZARDS IDENTIFICATION

3.1 EMERGENCY OVERVIEW

Odor, Color, Grade: Odorless, polypropylene sealed case which contains sealed Nickel Cadmium batteries

General Physical Form: Solid

Immediate health, physical, and environmental hazards: 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.

Ingestion:
No health effects are expected.

3.3 POTENTIAL ENVIRONMENTAL EFFECTS
Not determined.

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: No need for first aid is anticipated.
Skin Contact: No need for first aid is anticipated.
Inhalation: No need for first aid is anticipated.
If Swallowed: No need for first aid is anticipated.

SECTION 5: FIRE FIGHTING MEASURES

5.1 FLAMMABLE PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Not Applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autoignition temperature</td>
<td></td>
</tr>
<tr>
<td>Flash Point</td>
<td></td>
</tr>
<tr>
<td>Flammable Limits - LEL</td>
<td></td>
</tr>
<tr>
<td>Flammable Limits - UEL</td>
<td></td>
</tr>
<tr>
<td>OSHA Flammability Classification:</td>
<td></td>
</tr>
</tbody>
</table>

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 clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

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: Not applicable.

SECTION 7: HANDLING AND STORAGE

7.1 HANDLING
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.

7.2 STORAGE
Not applicable.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 ENGINEERING CONTROLS
Not applicable.

8.2 PERSONAL PROTECTIVE EQUIPMENT (PPE)

8.2.1 Eye/Face Protection
Not applicable.

8.2.2 Skin Protection
Not applicable.

8.2.3 Respiratory Protection
Not applicable.

8.2.4 Prevention of Swallowing
Not applicable.

8.3 EXPOSURE GUIDELINES
None Established

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Odor, Color, Grade: Odorless, polypropylene sealed case which contains sealed Nickel
Cadmium batteries

**General Physical Form:** Solid
**Autoignition temperature** Not Applicable
**Flash Point** Not Applicable
**Flammable Limits - LEL** Not Applicable
**Flammable Limits - UEL** Not Applicable
**Boiling point** Not Applicable
**Vapor Density** Not Applicable
**Vapor Pressure** Not Applicable
**Specific Gravity** Not Applicable
**pH** Not Applicable
**Melting point** No Data Available
**Solubility In Water** Not Applicable
**Evaporation rate** Not Applicable
**Volatile Organic Compounds** Not Applicable
**Percent volatile** Not Applicable
**VOC Less H2O & Exempt Solvents** Not Applicable
**Viscosity** Not Applicable

**SECTION 10: STABILITY AND REACTIVITY**

Stability: Stable.

Materials and Conditions 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>None known.</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:** Nickel-Cadmium batteries are to be recycled. 3M Occupational Health & Environmental Safety Division has a license agreement with Rechargeable Battery Recycling Corporation (RBRC) for recycling of used Battery Packs containing Nickel-Cadmium batteries. Please call 1-800-BATTERY for instructions on the nearest recycling location for your area.

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

**SECTION 14: TRANSPORT INFORMATION**

**ID Number(s):**

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 - Yes  Pressure Hazard - No  Reactivity Hazard - No  Immediate Hazard - No  Delayed Hazard - No

**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.

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: 0  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.

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

Revision Changes:
Section 14: ID Number(s) was modified.

DISCLAIMER: The information in this Material Safety Data Sheet (MSDS) is believed to be correct as of the date issued. 3M MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR COURSE OF PERFORMANCE OR USAGE OF TRADE. User is responsible for determining whether the 3M product is fit for a particular purpose and suitable for user's method of use or application. Given the variety of factors that can affect the use and application of a 3M product, some of which are uniquely within the user's knowledge and control, it is essential that the user evaluate the 3M product to determine whether it is fit for a particular purpose and suitable for user's method of use or application.

3M provides information in electronic form as a service to its customers. Due to the remote possibility that electronic transfer may have resulted in errors, omissions or alterations in this information, 3M makes no representations as to its completeness or accuracy. In addition, information obtained from a database may not be as current as the information in the MSDS available directly from 3M.