1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Tradename: DUCO CEMENT

General use: Adhesive.

Chemical family: Nitrocellulose solution

MANUFACTURER

ITW Devcon
30 Endicott St.
Danvers, MA 01923

EMERGENCY INFORMATION

Emergency telephone number
(CHEMTREC): (800) 424-9300
Other Calls: (978) 777-1100

Printed: 1/29/2004

2. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Constituent</th>
<th>Abbr.</th>
<th>CAS No.</th>
<th>Weight percent</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>Other Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-methoxy-2-propanol acetate</td>
<td>PGMEA</td>
<td>108656</td>
<td>&lt; 5</td>
<td>n/e</td>
<td>n/e</td>
<td>100 ppm (AIHA-WEEL)</td>
</tr>
<tr>
<td>Acetone</td>
<td></td>
<td>67641</td>
<td>70-80</td>
<td>500 ppm</td>
<td>1000 ppm</td>
<td>750 ppm (Canada)</td>
</tr>
<tr>
<td>Cellulose Nitrate</td>
<td></td>
<td>9004700</td>
<td>10-20</td>
<td>n/e</td>
<td>n/e</td>
<td>n/e</td>
</tr>
<tr>
<td>Isopropanol</td>
<td>IPA</td>
<td>67630</td>
<td>1-10</td>
<td>400 ppm</td>
<td>400 ppm</td>
<td>400 ppm (Canada)</td>
</tr>
<tr>
<td>Camphor</td>
<td></td>
<td>76222</td>
<td>&lt; 5</td>
<td>2 ppm</td>
<td>2 mg/m^3</td>
<td>2 ppm (Canada)</td>
</tr>
</tbody>
</table>

*TLV* means the Threshold Limit Value exposure (eight-hour, time-weighted average, unless otherwise noted) established by the American Conference of Governmental Industrial Hygienists. "STEL" indicates a short-term exposure limit. "PEL" indicates the OSHA Permissible Exposure Limit. "n/e" indicates that no exposure limit has been established. An asterisk (*) indicates a substance whose identity is a trade secret of our supplier and unknown to us.

3. HAZARDS IDENTIFICATION

Emergency Overview

Appearance, form, odor: Clear to amber liquid with solvent odor.

**DANGER!** Extremely Flammable. Eye, skin and respiratory irritant. May cause central nervous system effects.
FIRE FIGHTING MEASURES

Extinguishing media:
- [x] Water
- [ ] Carbon dioxide
- [x] Dry chemical
- [x] Foam
- [x] Alcohol foam

Flash Point (°F): -4
Method: TCC

Explosive limits in air (percent) --
Lower: 0.6
Upper: 12.8

Special firefighting procedures:
- Keep containers in storage cool with water to prevent pressure build up and bursting. Self contained breathing apparatus should be worn to protect firefighters from toxic degradation products.

Unusual fire and explosion hazards:
- Dry nitrocellulose resin is extremely flammable and burns explosively. Avoid friction and impact on dry resin.
6. ACCIDENTAL RELEASE MEASURES

Spill control:
- Avoid personal contact. Eliminate ignition sources. Ventilate area.

Containment:
- Dike, contain and absorb with clay, sand or other suitable non-combustible material.

Cleanup:
- For large spills, pump to storage/salvage vessels. Soak up residue with an absorbent such as clay, sand, or other suitable material and dispose of properly (RCRA hazardous waste).

Special procedures:
- Prevent spill from entering drainage/sewer systems, waterways, and surface waters. Use non-sparking tools.

7. HANDLING AND STORAGE

Handling precautions:
- EXTREMELY FLAMMABLE! Do not breathe vapor or mist. Do not get in eyes, on skin or clothing. Wash thoroughly after handling. Close container after each use. Ground container when pouring. Keep away from heat, flame or sparks. Use non-sparking tools. Wear appropriate respirator protection against decomposition products when welding the cured material. Avoid friction and impact upon the cured material (nitrocellulose).

Storage:
- Keep in a cool place, without direct exposure to sunlight. Keep container tightly closed and otherwise in accordance with NFPA regulations. Maintain air space in storage containers.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls
- Ventilation:
  - Mechanical or supplemental local exhaust may be required to keep vapor concentrations below tlv.

Other engineering controls:
- Keep container tightly closed. Observe label precautions. Have emergency eye wash and safety shower present.

Personal protective equipment

Eye and face protection:
- Safety glasses with side shields or full face shield.

Skin protection:
- Chemical resistant gloves and apron are recommended.

Respiratory protection:
- Use a NIOSH approved cartridge respirator for vapor concentrations above the tlv.
9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specific gravity</td>
<td>0.9</td>
</tr>
<tr>
<td>Melting point (°F)</td>
<td>n/d</td>
</tr>
<tr>
<td>Vapor pressure (mmHg)</td>
<td>185 at 68 °F</td>
</tr>
<tr>
<td>Boiling point (°F)</td>
<td>132-405</td>
</tr>
<tr>
<td>Vapor density (air = 1)</td>
<td>&gt;1</td>
</tr>
<tr>
<td>Evaporation rate (butyl acetate = 1)</td>
<td>slower than ether</td>
</tr>
<tr>
<td>Solubility in water</td>
<td>slight</td>
</tr>
<tr>
<td>pH (5% solution or slurry in water)</td>
<td>n/d</td>
</tr>
<tr>
<td>Percent volatile by volume</td>
<td>80-90</td>
</tr>
<tr>
<td>Percent solids by weight</td>
<td>10-20</td>
</tr>
<tr>
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<td>10-20</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

This material is chemically stable. Hazardous polymerization will not occur.

Conditions to avoid:
Heat, flames and other sources of ignition. Avoid allowing unmodified resin to become dry, avoid impact and friction.

Incompatible materials:
Strong oxidizers, acids, bases and amines.

Hazardous products of decomposition:
Oxides of carbon, Oxides of nitrogen and other unknown organic combustion products.

Conditions under which hazardous polymerization may occur:
None

11. TOXICOLOGICAL INFORMATION

Acute oral effects: LD50 (rat): No data available.
Acute dermal effects: LD50 (rabbit): No data available.
Acute inhalation effects: LC50 (rat): No data available.

Eye irritation:
No data available

Subchronic effects:
No data available.

Carcinogenicity, teratogenicity, and mutagenicity:
No data available.

Other chronic effects:
No data available.

Toxicological information on hazardous chemical constituents of this product:
12 ECOLOGICAL INFORMATION

Ecotoxicity:  
No data available.

Mobility and persistence:  
No data available.

Environmental fate:  
No data available.

13. DISPOSAL CONSIDERATIONS  
Please see also Section 15, Regulatory Information.

Waste management recommendations:  
Do not dispose of in a landfill. Incineration is the preferred method of disposal.

14. TRANSPORT INFORMATION

<table>
<thead>
<tr>
<th>Constituent</th>
<th>Oral LD50 (rat)</th>
<th>Dermal LD50 (rabbit)</th>
<th>Inhalation LC50 4hr, (rat)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-methoxy-2-propanol acetate</td>
<td>n/d</td>
<td>n/d</td>
<td>n/d</td>
</tr>
<tr>
<td>Acetone</td>
<td>5800 mg/kg</td>
<td>20 mL/kg</td>
<td>70852 mg/m^3</td>
</tr>
<tr>
<td>Cellulose Nitrate</td>
<td>&gt;5 g/kg</td>
<td>n/d</td>
<td>n/d</td>
</tr>
<tr>
<td>Isopropanol</td>
<td>5045 mg/kg</td>
<td>12.8 g/kg</td>
<td>22627 ppm</td>
</tr>
<tr>
<td>Camphor</td>
<td>n/d</td>
<td>n/d</td>
<td>n/d</td>
</tr>
</tbody>
</table>

*n/d = 'not determined'*

*Depending upon the size and type of container, this material may be reclassified as "Consumer Commodity, ORM-D" for shipments within the United States, or "Limited Quantity" elsewhere. Refer to the appropriate regulation.
For purposes of SARA Section 312 hazardous materials inventory reporting, the following hazard classes apply to this material:
- Immediate health hazard
- Delayed health hazard
- Fire hazard

The information and recommendations in this document are based on the best information available to us at the time of preparation, but we make no other warranty, express or implied, as to its correctness or completeness, or as to the results of reliance on this document.

Hazardous Materials Identification System (HMIS) ratings:

- **Health**: 2*
- **Flammability**: 3
- **Reactivity**: 2

The Regulatory status of hazardous chemical constituents of this product:

<table>
<thead>
<tr>
<th>Constituent</th>
<th>Extremely Hazardous*</th>
<th>Toxic Chemical**</th>
<th>CERCLA RQ (lbs)</th>
<th>TSCA 12B Export Notification</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-methoxy-2-propanol acetate</td>
<td>No</td>
<td>No</td>
<td>100.0</td>
<td>Not required</td>
</tr>
<tr>
<td>Acetone</td>
<td>No</td>
<td>No</td>
<td>5000.0</td>
<td>Required</td>
</tr>
<tr>
<td>Cellulose Nitrate</td>
<td>No</td>
<td>No</td>
<td>0.0</td>
<td>Not required</td>
</tr>
<tr>
<td>Isopropanol</td>
<td>No</td>
<td>Yes</td>
<td>100.0</td>
<td>Required</td>
</tr>
<tr>
<td>Camphor</td>
<td>No</td>
<td>No</td>
<td>0.0</td>
<td>Not required</td>
</tr>
</tbody>
</table>

*Consult the appropriate regulations for emergency planning and release reporting requirements for substances on the SARA Section 301 Extremely Hazardous Substance list.

**Substances for which the "Toxic Chemical" column is marked "Yes" are on the SARA Section 313 list of Toxic Chemicals, for which release reporting may be required. For specific requirements, consult the appropriate regulations.

For purposes of SARA Section 312 hazardous materials inventory reporting, the following hazard classes apply to this material: - Immediate health hazard -- Delayed health hazard -- Fire hazard -

Canadian regulations

WHMIS hazard class(es) : B2
All components of this product are on the Domestic Substances List.

Regulatory notes:
Coating VOC: 375 g/l; Material VOC: 74 g/l

16. OTHER INFORMATION