Material Safety Data Sheet  # 363
Hercules Chemical Company Inc.
111 South Street
Passaic NJ 07055-7398
Information Telephone: 1-800 221-9330
Internet: www.herchem.com

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identity: HERCULES PVC CEMENT CLEAR REGULAR, LOW VOC.
Intended Use: Low Voc Solvent cement.

Manufacturer: Hercules Chemical Company, Inc.
111 South Street
Passaic, New Jersey 07055-7398
Information Telephone: (800) 221-9330
Internet: http://www.herchem.com

Emergency Phone: CHEMTREC: (800) 424-9300

MSDS Date of Preparation: 9/28/09

2. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No.</th>
<th>Percentage</th>
<th>OSHA PEL</th>
<th>ACGIH TLV</th>
<th>Other limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tetrahydrofuran</td>
<td>109-99-9</td>
<td>40-50</td>
<td>200 ppm</td>
<td>200 ppm</td>
<td></td>
</tr>
<tr>
<td>Acetone</td>
<td>67-64-1</td>
<td>10-20</td>
<td>1000 ppm</td>
<td>500 ppm</td>
<td></td>
</tr>
<tr>
<td>Methyl ethyl Ketone</td>
<td>78-93-3</td>
<td>10-20</td>
<td>200 ppm</td>
<td>200 ppm</td>
<td></td>
</tr>
<tr>
<td>Cyclohexanone</td>
<td>108-94-1</td>
<td>5-15</td>
<td>50 ppm</td>
<td>20 ppm</td>
<td></td>
</tr>
<tr>
<td>PVC Resin</td>
<td>9002-86-2</td>
<td>10-15</td>
<td>15 mg/m³</td>
<td>10 mg/m³</td>
<td></td>
</tr>
</tbody>
</table>

HMIS Hazard Rating: 3 4 1 G

3. HAZARDS IDENTIFICATION

This product is a clear viscous liquid with an ether-like odor.

EMERGENCY OVERVIEW

DANGER!
Extremely flammable liquid and vapor. Vapors may cause flash fires. May cause eye and skin irritation. Inhalation of vapors will cause irritation of mucous membranes, nose, eyes and throat coughing and difficulty breathing. Exposure to high level concentration may cause headache, dizziness, nausea, and narcosis. May cause solvent defatting and dermatitis with prolonged repeated contact. Harmful or fatal if swallowed.
Potential Health Effects.

**Inhalation:** May cause irritation of the nose, throat and upper respiratory tract. High concentrations may cause headache dizziness, nausea, shortness of breath and vomiting. Concentrations above TLV, may cause central nervous system depression and unconsciousness.

**Ingestion:** May produce abdominal pain and nausea. Aspiration into lungs can produce severe lung damage and is a medical emergency.

**Eye:** Causes painful burning or stinging of eyes and lids, watering of eyes and inflammation of conjunctiva.

**Skin:** Causes irritation of skin. Prolonged skin contact causes common solvent defatting effect such as redness, itching and pain.

### 4. EMERGENCY AND FIRST AID PROCEDURES.

**Eye:** Immediately flush victim’s eyes with large quantities of water, for at least 15 minutes, holding the eyelids apart. Get immediate medical attention.

**Skin:** Wash with soap and water. Remove contaminated clothing. Wash contaminated clothing before reuse. If irritation develops, get medical attention.

**Inhalation:** Remove person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, have qualified person administer oxygen,. Call a doctor.

**Ingestion:** DO NOT INDUCE VOMITING. If conscious, give 1-2 glasses of water to dilute. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. Call a doctor immediately.

### 5. FIRE FIGHTING MEASURES

**Flashpoint:** 6°F (TCC)

**Flammable Limits: LEL:** 2.0 %  **UEL:** 11.8 %

**Autoignition Temperature:** Not determined

**Extinguishing Media:** Foam, Dry Chemical or Carbon Dioxide.

**Unusual Fire or Explosion Hazards:** Vapors are heavier than air, and will travel considerable distance to source of ignition causing a flashback. On long standing may form peroxides which may cause violent reactions especially upon evaporation to dryness.

**Special Fire-Fighting Instructions:** Handle as flammable liquid. Firefighters should wear positive pressure self-contained breathing apparatus and chemical goggles. Water may be ineffective but should be used to keep fire exposed containers cool.

**Hazardous Combustion Products:** Carbon Dioxide and Carbon Monoxide are formed. Irritating peroxide fumes are formed when heated to decomposition.

### 6. ACCIDENTAL RELEASE MEASURES

Eliminate all sources of ignition. Ventilate area. Wear appropriate personal protection equipment. Absorb with inert absorbing material and dispose of with solid waste according to Federal, State and Local regulations. Wash spill area with water. Do not flush wash water into confined areas.

### 7. HANDLING AND STORAGE

**Handling:** Do not get in eyes, on skin or clothing. Avoid breathing vapors. Keep product away from heat, sparks and open flames and all sources of ignition. Use with adequate ventilation. Wash thoroughly with soap and water after handling. Keep containers closed when not in use.

**Storage:** Store in a cool, dry, well ventilated area away from incompatible materials. Store only in original container. Keep containers closed when not in use, and away from open flame or other sources of ignition.
8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Respiratory Protection:** In confined spaces, or in areas where adequate ventilation cannot be assured, use NIOSH-approved organic vapor respirator or a positive-pressure airline mask, or a self-contained breathing apparatus.

**Engineering Controls:** Use with general or local exhaust ventilation as required. When using cements in areas with limited ventilation, use a ventilation device such as a fan or air mover to maintain safe air/vapor concentrations. All ventilation devices should be located such that they do not become sources of ignition.

**Skin Protection:** Avoid skin contact. Wear chemical resistant gloves such as PVA gloves. Rubber gloves are acceptable for short time usage.

**Eye Protection:** Safety glasses with side shields or Chemical Safety goggles when necessary.

9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance and Odor:** Clear viscous liquid with ethereal Acetone like odor

<table>
<thead>
<tr>
<th>Physical State:</th>
<th>Liquid</th>
<th>Boiling Point:</th>
<th>151°F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vapor Density:</td>
<td>2.0 to 2.5</td>
<td>Vapor Pressure:</td>
<td>143 @ 68°F (Based on THF)</td>
</tr>
<tr>
<td>Solubility In Water:</td>
<td>60-85%</td>
<td>Evaporation Rate:</td>
<td>7 to 11</td>
</tr>
<tr>
<td>Specific Gravity:</td>
<td>0.935 +/- .03</td>
<td>Volatile Components:</td>
<td>65-75%</td>
</tr>
<tr>
<td>Melting Point:</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

**Stability:** Stable under normal storage and handling conditions.

**Conditions to avoid:** Keep in closed containers and away from sparks and open flame.

**Incompatibility:** Strong oxidizing materials, Lithium Aluminum Hydride, Sodium Aluminum Hydroxide & Sodium & Potassium Hydroxides.

**Hazardous Decomposition Products:** Carbon Dioxide and Carbon Monoxide are formed. Irritating peroxide fumes formed when heated to decomposition.

**Hazardous Polymerization:** Avoid excessive exposure to air and cationic initiators like Lewis Acids

11. TOXICOLOGICAL INFORMATION

**HEALTH HAZARDS:**

**Ingestion:** Swallowing may cause abdominal pain, nausea, vomiting and diarrhea. May cause kidney and liver damage. Aspiration during swallowing or vomiting, can cause chemical pneumonia and lung damage.

**Inhalation:** Inhalation of vapors will cause irritation of mucous membranes, nose, eyes and throat and difficult of breathing. High concentrations may cause headache, dizziness, narcosis and nausea.

**Eye:** May cause moderate to severe irritation. Eye injury is possible.

**Skin:** May cause irritation with redness itching and pain.

**Sensitization:** None of the components are known to cause sensitization.

**Chronic:** Prolonged or repeated contact or overexposure can dermatosis and dermatitis.

**Carcinogenicity:** None of the components is listed as a carcinogen or suspected carcinogen by IARC, NTP or OSHA.

Cyclohexanone is classified by ACGIH as “A3”, a confirmed animal carcinogen with unknown relevance to humans.

**Mutagenicity:** Methyl Ethyl Ketone is not considered genotoxic based on laboratory studies.

**Medical Conditions Aggravated by Exposure:** Pre-existing skin, lung, kidney or liver disorders may be at increased risk from exposure to this product.

HERCULES PVC CEMENT CLEAR REGULAR, LOW VOC– MSDS # 363
12. ECOLOGICAL INFORMATION

Environmental Toxicity: This product is not expected to be toxic to aquatic life. Tetrahydrofuran: Not expected to bioaccumulate. 96-hr LC50: Fathead minnows, 2160 mg/L, Cyclohexanone: 96-hr LC50: fish >100 mg/L, Methyl Ethyl Ketone 96-hr LC50: fish >100 mg/L, Acetone: 96-hr LC50: Fish>100 mg/L

13. DISPOSAL CONSIDERATIONS

Dispose in accordance with local, state and federal environmental regulations.

14. TRANSPORT INFORMATION

Transportation of Dangerous Goods Description:

<table>
<thead>
<tr>
<th>DOT</th>
<th>Proper Shipping Name:</th>
<th>Hazard Class:</th>
<th>UN Number/Packing Group:</th>
<th>Labels Required:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 1 liter (0.3 gal)</td>
<td>Consumer Commodity</td>
<td>ORM-D</td>
<td>NONE</td>
<td>None</td>
</tr>
<tr>
<td>Greater than 1 liter (0.3 gal)</td>
<td>Flammable Liquid, n.o.s (Tetrahydrofuran, Methyl Ethyl Ketone)</td>
<td>3</td>
<td>UN 1993 PGII</td>
<td>Flammable Liquid Label</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>IMDG</th>
<th>Proper Shipping Name:</th>
<th>Hazard Class:</th>
<th>UN Number/Packing Group:</th>
<th>Labels Required:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 1 liter (0.3 gal)</td>
<td>Flammable Liquid, n.o.s</td>
<td>3</td>
<td>UN 1993/PGII</td>
<td>None</td>
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<tr>
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<td>UN 1993 PGII</td>
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</table>

Flash Point 6°F 6°F

15. REGULATORY INFORMATION

Hazard Category for Section 311/312: Acute health, chronic health, Flammable
Section 302 Extremely Hazardous Substances (TQP): This product does not contain chemicals regulated under SARA section 302.
Section 313 Toxic Chemicals: This product does not contain chemicals subject to SARA Title III Section 313 reporting requirements.
California Proposition 65: This product does not contain any chemicals subject to California Proposition 65 Regulation.
TSCA Inventory: All the components in this product are listed on the TSCA inventory.
Canada DSL List—yes
WHMIS Classification: Class B-2, Flammable liquid, D-2A, Materials causing other toxic effects (very Toxic), D-2B toxic material. This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

16. OTHER INFORMATION

DISCLAIMER:
The information herein has been compiled from sources believed to be reliable, up-to-date, and is accurate to the best of our knowledge. However, Hercules cannot give any guarantees regarding information from other sources, and expressly does not make warranties, nor assumes any liability for its use.