1. PRODUCT AND COMPANY IDENTIFICATION

MEGAPOSIT(TM) SPR(TM) 955CM-0.9 Positive Photoresist

Revision date: 03/17/2010

Supplier
Rohm and Haas Electronic Materials LLC
455 Forest Street
Marlborough, MA 01752 United States of America

For non-emergency information contact: 508-481-7950

Emergency telephone
Chemtrec 800-424-9300
Rohm and Haas 215-592-3000
Emergency

2. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl lactate</td>
<td>97-64-3</td>
<td>50.0 - 70.0 %</td>
</tr>
<tr>
<td>Anisole</td>
<td>100-66-3</td>
<td>5.0 - 20.0 %</td>
</tr>
<tr>
<td>Methyl butyl acetate</td>
<td>624-41-9</td>
<td>1.0 - 5.0 %</td>
</tr>
<tr>
<td>Amyl acetate</td>
<td>628-63-7</td>
<td>1.0 - 10.0 %</td>
</tr>
<tr>
<td>Cresol</td>
<td>1319-77-3</td>
<td>&lt; 1.0 %</td>
</tr>
<tr>
<td>Cresol novolak resin</td>
<td></td>
<td>10.0 - 30.0 %</td>
</tr>
<tr>
<td>Diazo Photoactive Compound</td>
<td></td>
<td>1.0 - 15.0 %</td>
</tr>
<tr>
<td>Organic Siloxane Surfactant</td>
<td></td>
<td>&lt; 1.0 %</td>
</tr>
</tbody>
</table>

3. HAZARDS IDENTIFICATION

Emergency Overview

Appearance

Form liquid
Colour red
Odour Sweet odor organic
Hazard Summary

<table>
<thead>
<tr>
<th>CAUTION!</th>
</tr>
</thead>
<tbody>
<tr>
<td>Combustible liquid and vapor. Causes irritation to eyes, nose, and respiratory tract. Prolonged, repeated contact, inhalation, ingestion, or absorption through the skin, may cause adverse effects to internal organ systems.</td>
</tr>
</tbody>
</table>

Potential Health Effects

Primary Routes of Entry: Inhalation, ingestion, eye and skin contact, absorption.

Eyes: May cause pain, transient irritation and superficial corneal effects.

Skin: Material may cause irritation. Prolonged or repeated exposure may have the following effects:
- Central nervous system depression
- Drowsiness
- Defatting of skin leading to irritation and dermatitis

Ingestion: Swallowing may have the following effects:
- Irritation of mouth, throat and digestive tract
- Repeated doses may have the following effects:
  - Central nervous system depression
  - Drowsiness

Inhalation: Inhalation may have the following effects:
- Irritation of nose, throat and respiratory tract
- Higher concentrations may have the following effects:
  - Systemic effects similar to those resulting from ingestion

Target Organs: Eye, Respiratory System, Skin, Nervous System

Carcinogenicity
- Not considered carcinogenic by NTP, IARC, and OSHA

4. FIRST AID MEASURES

Inhalation: Remove from exposure. If there is difficulty in breathing, give oxygen. Seek medical attention if symptoms persist.

Skin contact: Wash skin with water. Continue washing for at least 15 minutes. Obtain medical attention if blistering occurs or redness persists.

Eye contact: Immediately flush the eye with plenty of water for at least 15 minutes, holding the eye open. Obtain medical attention if soreness or redness persists.

Ingestion: Wash out mouth with water. Have victim drink 1-3 glasses of water to dilute stomach contents. Induce vomiting if person is conscious. Immediate medical attention is required. Never administer anything by mouth if a victim is losing consciousness, is unconscious or is convulsing.

Notes to physician: Treat symptomatically.
5. FIRE-FIGHTING MEASURES

Flash point 43 - 45 °C (109.9 - 114.1 °F)
Lower explosion limit no data available
Upper explosion limit no data available

Suitable extinguishing media: Use water spray, foam, dry chemical or carbon dioxide. Keep containers and surroundings cool with water spray.

Specific hazards during fire fighting: This product may give rise to hazardous vapors in a fire. Vapors can travel a considerable distance to a source of ignition and result in flashback.

Special protective equipment for fire-fighters: Wear full protective clothing and self-contained breathing apparatus.

Further information: Pressure may build up in closed containers with possible liberation of combustible vapors.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions
Wear suitable protective clothing.
Wear respiratory protection.
Eliminate all ignition sources.

Environmental precautions
Prevent the material from entering drains or water courses.
Do not discharge directly to a water source.
Advise Authorities if spillage has entered watercourse or sewer or has contaminated soil or vegetation.

Methods for cleaning up
Contain spills immediately with inert materials (e.g., sand, earth).
Transfer into suitable containers for recovery or disposal.
Finally flush area with plenty of water.

7. HANDLING AND STORAGE

Handling
Use local exhaust ventilation. Avoid contact with eyes, skin and clothing. Keep container tightly closed.

Further information on storage conditions: Keep away from heat, sparks, flame, and other sources of ignition. Practice good personal hygiene to prevent accidental exposure.

Storage
Storage conditions: Store in original container. Keep away from heat and sources of ignition. Storage area should be: cool dry well ventilated out of direct sunlight
8. EXPOSURE CONTROLS/PERSOHAL PROTECTION

Exposure limit(s)

Exposure limits are listed below, if they exist.

<table>
<thead>
<tr>
<th>Component</th>
<th>Regulation</th>
<th>Type of listing</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl lactate</td>
<td>Rohm and Haas</td>
<td>TWA</td>
<td>5 ppm</td>
</tr>
<tr>
<td></td>
<td>Rohm and Haas</td>
<td>STEL</td>
<td>15 ppm</td>
</tr>
<tr>
<td>Methyl butyl acetate</td>
<td>Rohm and Haas</td>
<td>TWA</td>
<td>50 ppm</td>
</tr>
<tr>
<td></td>
<td>Rohm and Haas</td>
<td>STEL</td>
<td>100 ppm</td>
</tr>
<tr>
<td></td>
<td>ACGIH</td>
<td>TWA</td>
<td>50 ppm</td>
</tr>
<tr>
<td></td>
<td>ACGIH</td>
<td>STEL</td>
<td>100 ppm</td>
</tr>
<tr>
<td>Amyl acetate</td>
<td>Rohm and Haas</td>
<td>TWA</td>
<td>50 ppm</td>
</tr>
<tr>
<td></td>
<td>Rohm and Haas</td>
<td>STEL</td>
<td>100 ppm</td>
</tr>
<tr>
<td></td>
<td>ACGIH</td>
<td>TWA</td>
<td>50 ppm</td>
</tr>
<tr>
<td></td>
<td>ACGIH</td>
<td>STEL</td>
<td>100 ppm</td>
</tr>
<tr>
<td></td>
<td>NIOSH/GUIDE</td>
<td>REL</td>
<td>525 mg/m3</td>
</tr>
<tr>
<td></td>
<td>OSHA_TRANS</td>
<td>PEL</td>
<td>525 mg/m3</td>
</tr>
<tr>
<td></td>
<td>Z1A</td>
<td>TWA</td>
<td>525 mg/m3</td>
</tr>
<tr>
<td>Cresol</td>
<td>ACGIH</td>
<td>TWA</td>
<td>5 ppm</td>
</tr>
<tr>
<td></td>
<td>ACGIH</td>
<td>SKIN_DES</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OSHA_TRANS</td>
<td>PEL</td>
<td>22 mg/m3 5 ppm</td>
</tr>
<tr>
<td></td>
<td>OSHA_TRANS</td>
<td>SKIN_DES</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Z1A</td>
<td>TWA</td>
<td>22 mg/m3 5 ppm</td>
</tr>
<tr>
<td></td>
<td>Z1A</td>
<td>SKIN_FINAL</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ACGIHLIS_P</td>
<td>TWA Inhaleable</td>
<td>20 mg/m3</td>
</tr>
<tr>
<td></td>
<td>ACGIHLIS_P</td>
<td>SKIN_DES Inhaleable fraction and vapor.</td>
<td></td>
</tr>
</tbody>
</table>

Eye protection: Goggles

Hand protection: Butyl rubber gloves. Other chemical resistant gloves may be recommended by your safety professional.

Skin and body protection: Normal work wear.

Respiratory protection: Respiratory protection if there is a risk of exposure to high vapor concentrations. The specific respirator selected must be based on the airborne concentration found in the workplace and must not exceed the working limits of the respirator.

Engineering measures: Engineering methods to prevent or control exposure are preferred. Methods include process or personnel enclosure, mechanical ventilation (local exhaust), and control of process conditions.
9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance
Form: liquid
Colour: red
Odour: Sweet odor organic
pH: ca. 7

Boiling point/boiling range: 150 °C (302 °F)
Flash point: 43 - 45 °C (109.9 - 114.1 °F)
Lower explosion limit: no data available
Upper explosion limit: no data available

Component: Ethyl lactate
Vapour pressure: 1.7 mmHg at 20 °C (68 °F)

Component: Anisole
Vapour pressure: 9.7 mmHg at 42 °C (108 °F)

Component: Amyl acetate
Vapour pressure: 5.0 mmHg at 25 °C (77 °F)

Relative vapour density: Heavier than air.
Water solubility: insoluble
Relative density: 1.05
Evaporation rate: Slower than ether
VOC’s: 650 - 915 g/l

NOTE: The physical data presented above are typical values and should not be construed as a specification.

10. STABILITY AND REACTIVITY

Hazardous reactions: Stable under normal conditions.

Conditions to avoid: High temperatures Static discharge contact with incompatible materials

Materials to avoid: Oxidizing agents Reducing agents Acids Bases

Hazardous decomposition products: Carbon monoxide, carbon dioxide, phenols, nitrogen oxides (NOx), oxides of sulfur,

polymerisation: Will not occur.
11. TOXICOLOGICAL INFORMATION

Toxicological information on this product or its components appear in this section when such data is available.

Component: Ethyl lactate
Acute oral toxicity  
LD50 rat  > 2,000 mg/kg

Component: Methyl butyl acetate
Acute oral toxicity  
LD50 rat  12,306 mg/kg

Component: Amyl acetate
Acute oral toxicity  
LD50 rat  >1,600 mg/kg

Component: Cresol
Acute oral toxicity  
LD50 rat  1,454 mg/kg

Component: Ethyl lactate
Acute inhalation toxicity  
LC50 rat  4 h 5,400 mg/m3

Component: Methyl butyl acetate
Acute inhalation toxicity  
LC50 rat  4 h >5.2 mg/l

Component: Amyl acetate
Acute inhalation toxicity  
16,000 mg/m3

Component: Ethyl lactate
Acute dermal toxicity  
LD50 rat  > 5,000 mg/kg

Component: Methyl butyl acetate
Acute dermal toxicity  
LD50 rabbit  8,359 mg/kg

Component: Amyl acetate
Acute dermal toxicity  
LD50 rabbit  >17,500 mg/kg

Component: Cresol
Acute dermal toxicity  
LD50 rabbit  2,000 mg/kg

Component: Ethyl lactate
Skin irritation  
A single application to rabbit skin produced mild irritation.

Component: Methyl butyl acetate
Skin irritation  
rabbit Moderate irritation.

Component: Cresol
Skin irritation  
rabbit Corrosive

Component: Ethyl lactate
Eye irritation  
Single application to the rabbit eye produced conjunctival irritation.

Component: Methyl butyl acetate
Eye irritation  
rabbit Moderate eye irritation

Component: Cresol
Eye irritation  
rabbit Corrosive
Component: **Ethyl lactate**

**Reproductive toxicity**
No adverse reproductive effects were observed in experimental animals.

Component: **Amyl acetate**

**Subchronic toxicity**
- Inhalation rat
- NOEL: 1,200 mg/kg
- none

Component: **Amyl acetate**

**Reproductive toxicity**
- Exposure of pregnant rabbits to vapor at 1500 ppm resulted in maternal toxicity. The following effects were observed: decreased body weight. No adverse reproductive effects were observed in experimental animals.

Component: **Cresol**

**Teratogenicity**
- Developmental effects were seen in laboratory animals only at dose levels that were maternally toxic.

Component: **Cresol**

**Mutagenicity**
- Not mutagenic in Ames Test. In vitro tests showed mutagenic effects

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**12. ECOLOGICAL INFORMATION**

*Ecotoxicological information on this product or its components appear in this section when such data is available.*

**Ethyl lactate**

<table>
<thead>
<tr>
<th>Ecotoxicity effects</th>
<th>Daphnia magna 48 h EC50 (mg/l)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity to aquatic invertebrates</td>
<td>683</td>
</tr>
</tbody>
</table>

**Anisole**

<table>
<thead>
<tr>
<th>Ecotoxicity effects</th>
<th>Growth rate EC50 (mg/l)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity to algae</td>
<td>Pseudokirchneriella subcapitata (green algae) 96 h</td>
</tr>
</tbody>
</table>

**Methyl butyl acetate**

<table>
<thead>
<tr>
<th>Ecotoxicity effects</th>
<th>Fathead minnow (Pimphales promelas) LC50 (mg/l)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity to fish</td>
<td>69</td>
</tr>
<tr>
<td>Toxicity to algae</td>
<td>Pseudokirchneriella subcapitata 96 h</td>
</tr>
<tr>
<td>Toxicity to aquatic invertebrates</td>
<td>Daphnia magna 48 h</td>
</tr>
</tbody>
</table>

**Amyl acetate**

<table>
<thead>
<tr>
<th>Ecotoxicity effects</th>
<th>Mosquito fish (Gambusia affinis) LC50 (mg/l)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity to fish</td>
<td>65</td>
</tr>
</tbody>
</table>
MEGAPOSIT(TM) SPR(TM) 955CM-0.9 Positive Photoresist

<table>
<thead>
<tr>
<th>Toxicity to algae</th>
<th>EC50 Algae 24 h 550 mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity to aquatic</td>
<td></td>
</tr>
<tr>
<td>invertebrates</td>
<td>EC50 Daphnia magna 24 h 210 mg/l</td>
</tr>
</tbody>
</table>

**Cresol**

**Ecotoxicity effects**

<table>
<thead>
<tr>
<th>Toxicity to fish</th>
<th>LC50 Zebra fish (Danio/Brachydanio rerio) 96 h 9 mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity to fish</td>
<td>LC50 Bluegill sunfish (Lepomis macrochirus) 96 h 10 mg/l</td>
</tr>
<tr>
<td>Toxicity to bacteria</td>
<td>EC0 Pseudomonas putida 0.5 h 250 mg/l</td>
</tr>
</tbody>
</table>

### 13. DISPOSAL CONSIDERATIONS

**Environmental precautions:** Prevent the material from entering drains or water courses. Do not discharge directly to a water source. Advise Authorities if spillage has entered watercourse or sewer or has contaminated soil or vegetation.

**Disposal**

Dispose in accordance with all local, state (provincial), and federal regulations. Incineration is the recommended method of disposal for containers. Under RCRA, it is the responsibility of the product's user to determine at the time of disposal, whether the product meets RCRA criteria for hazardous waste. This is because the product uses, transformations, mixtures, processes, etc. may render the resulting materials hazardous. Do not remove label until container is thoroughly cleaned. Empty containers may contain hazardous residues. This material and its container must be disposed of in a safe way.

### 14. TRANSPORT INFORMATION

**DOT**

Not regulated per 49CFR 173.150(f)(2)

**IMO/IMDG**

<table>
<thead>
<tr>
<th>Proper shipping name</th>
<th>RESIN SOLUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN-Number</td>
<td>UN 1866</td>
</tr>
<tr>
<td>Class</td>
<td>3</td>
</tr>
<tr>
<td>Packing group</td>
<td>III</td>
</tr>
</tbody>
</table>

*Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations*

### 15. REGULATORY INFORMATION

**Workplace Classification**

OSHA: Combustible

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Irritant

WHMIS: This product is a 'controlled product' under the Canadian Workplace Hazardous Materials Information System (WHMIS).

SARA TITLE III: Section 311/312 Categorizations (40CFR370): Immediate, delayed, flammability hazard

SARA TITLE III: Section 313 Information (40CFR372)
This product does not contain a chemical which is listed in Section 313 at or above de minimis concentrations.

US. Toxic Substances Control Act (TSCA): All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

California (Proposition 65)
This product does not contain materials which the State of California has found to cause cancer, birth defects or other reproductive harm.

16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>Hazard Rating</th>
<th>Health</th>
<th>Fire</th>
<th>Reactivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>NFPA</td>
<td>2</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>

Legend

<table>
<thead>
<tr>
<th>ACGIH</th>
<th>American Conference of Governmental Industrial Hygienists</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAc</td>
<td>Butyl acetate</td>
</tr>
<tr>
<td>OSHA</td>
<td>Occupational Safety and Health Administration</td>
</tr>
<tr>
<td>PEL</td>
<td>Permissible Exposure Limit</td>
</tr>
<tr>
<td>STEL</td>
<td>Short Term Exposure Limit (STEL):</td>
</tr>
<tr>
<td>TLV</td>
<td>Threshold Limit Value</td>
</tr>
<tr>
<td>TWA</td>
<td>Time Weighted Average (TWA):</td>
</tr>
<tr>
<td>Bar</td>
<td>Bar denotes a revision from prior MSDS.</td>
</tr>
</tbody>
</table>

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.