

# ENTHONE

## MATERIAL SAFETY DATA SHEET

|                     |   |
|---------------------|---|
| Health              | 3 |
| Flammability        | 2 |
| Reactivity          | 1 |
| Personal Protection |   |

**In Case of Emergency**  
CHEMTREC Number  
(800) 424-9300

### Section 1. Chemical Product and Company Identification

**Product Name** ENTHONE® 50-508R CAT-L-INK  
**Product Code Number(s)** 135689  
135690  
135691  
**Material Uses** Specialty chemicals for the electronics and surface finishing industries.  
**Manufacturer** ENTHONE  
350 Frontage Road  
West Haven, CT 06516  
(203) 799-4917  
(203) 799-8179 (fax)  
www.cooksonelectronics.com  
**Supersedes Date** 09/20/00 **Revision No.** 2  
**Print Date** 1/13/2003. **Validation Date** 1/13/2003.  
**Prepared by** Anton Mayer - Regulatory Specialist

### Section 2. Composition, Information on Ingredients

| Name                                      | CAS #      | % by Weight |
|---|------------|-------------|
| PROPRIETARY EPOXY RESINS AND POLYMERS     |            | 35-45       |
| DIETHYLENE GLYCOL ETHYL ETHER ACETATE     | 112-15-2   | 10-20       |
| DIPROPYLENE GLYCOL METHYL ETHER           | 34590-94-8 | 5-10        |
| PROPYLENE GLYCOL MONOMETHYL ETHER ACETATE | 108-65-6   | 5-10        |
| LEAD                                      | 7439-92-1  | 10-12       |
| CHROMIUM, HEXAVALENT                      | 7440-47-3  | 1-5         |
| BARIUM SULFATE                            | 7727-43-7  | 1-5         |

*All ingredients comply with applicable rules or orders under TSCA*

### Section 3. Hazards Identification

**Physical State and Appearance** Liquid. **Odor** Mild. **Color** Medium Red.

**Emergency Overview** WARNING!  
Hazardous in case of ingestion.

**Routes of Entry** Absorbed through skin. Dermal contact. Eye contact. Inhalation. Ingestion.

#### Potential Acute Health Effects

*Eyes* Hazardous in case of eye contact (irritant).

*Skin* Slightly hazardous in case of skin contact (irritant, sensitizer, permeator). Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

*Inhalation* Hazardous in case of inhalation (lung irritant).

*Ingestion* Hazardous in case of ingestion.

**Medical Conditions Caused or Aggravated by Overexposure** Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs. Repeated or prolonged exposure may cause irritation and dermatitis. Prolonged skin exposure may lead to sensitization and allergic reaction.

Continued on Next Page

## Section 4. First Aid Measures

|                     |   |
|---------------------|---|
| <b>Eye Contact</b>  | Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Get medical attention.  |
| <b>Skin Contact</b> | In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention. |
| <b>Inhalation</b>   | If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.  |
| <b>Ingestion</b>    | Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.                      |

## Section 5. Fire Fighting Measures

|  |   |
|--|---|
| <b>Flammability of the Product</b>                   | Combustible.  |
| <b>Flash Points</b>                                  | Closed cup: 65.56°C (150°F). (Setaflash)  |
| <b>Products of Combustion</b>                        | These products are carbon oxides (CO, CO <sub>2</sub> ) nitrogen oxides (NO, NO <sub>2</sub> ...) sulfur oxides (SO <sub>2</sub> , SO <sub>3</sub> ...) Some metallic oxides. |
| <b>Fire Fighting Media and Instructions</b>          | SMALL FIRE: Use DRY chemical powder.<br>LARGE FIRE: Use water spray, fog or foam. Do not use water jet.   |
| <b>Protective Equipment (Fire)</b>                   | Wear NIOSH approved self-contained breathing apparatus or equivalent and full protective gear.  |
| <b>Special Remarks on Fire and Explosion Hazards</b> | No unusual fire and explosion hazards.  |

## Section 6. Accidental Release Measures

|                             |  |
|-----------------------------|--|
| <b>Small Spill and Leak</b> | Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. |
| <b>Large Spill and Leak</b> | Keep away from heat. Keep away from sources of ignition. Stop leak if without risk.                                      |

## Section 7. Handling and Storage

|                 |  |
|-----------------|--|
| <b>Handling</b> | Keep away from heat, sparks and flame. Keep container closed. Use only with adequate ventilation. To avoid fire, minimize ignition sources.                            |
| <b>Storage</b>  | Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame). |

## Section 8. Exposure Controls, Personal Protection

|                             |   |
|-----------------------------|---|
| <b>Engineering Controls</b> | Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective occupational exposure limits. Ensure that eyewash stations and safety showers are proximal to the work-station location. |
|-----------------------------|---|

### Personal Protection

*Eyes* Splash goggles.

*Body* Synthetic apron.

*Respiratory* Be sure to use a MSHA/NIOSH approved respirator or equivalent. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product, and the safe working limits of the selected respirator.

*Hands* Butyl rubber gloves. Nitrile gloves.

*Feet* Boots.

### Protective Equipment (Pictograms)



|   |   |
|---|---|
| <b>Personal Protection in Case of a Large Spill</b> | Splash goggles. Full suit. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product. |
|---|---|

### Product Name

### Exposure Limits

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|   |   |
|---|---|
| DIPROPYLENE GLYCOL METHYL ETHER           | <p><b>ACGIH TLV (United States, 2001). Skin</b><br/>                 STEL: 909 mg/m<sup>3</sup> 15 minute(s).<br/>                 STEL: 150 ppm 15 minute(s).<br/>                 TWA: 606 mg/m<sup>3</sup> 8 hour(s).<br/>                 TWA: 100 ppm 8 hour(s).</p> <p><b>NIOSH REL (United States, 2001). Skin</b><br/>                 STEL: 900 mg/m<sup>3</sup> 15 minute(s).<br/>                 STEL: 150 ppm 15 minute(s).<br/>                 TWA: 600 mg/m<sup>3</sup> 10 hour(s).<br/>                 TWA: 100 ppm 10 hour(s).</p> <p><b>OSHA PEL 1989 (United States, 1989). Skin</b><br/>                 STEL: 900 mg/m<sup>3</sup> 15 minute(s).<br/>                 STEL: 150 ppm 15 minute(s).<br/>                 TWA: 600 mg/m<sup>3</sup> 8 hour(s).<br/>                 TWA: 100 ppm 8 hour(s).</p> |
| PROPYLENE GLYCOL MONOMETHYL ETHER ACETATE | <p><b>AIHA WEEL (United States, 2001).</b><br/>                 TWA: 100 ppm 8 hour(s).</p>   |
| CHROMIUM, HEXAVALENT                      | <p><b>ACGIH TLV (United States, 2001).</b><br/>                 TWA: 0.5 mg/m<sup>3</sup> 8 hour(s). Form: Inorganic<br/>                 TWA: 0.01 mg/m<sup>3</sup> 8 hour(s). Form: Insoluble<br/>                 TWA: 0.05 mg/m<sup>3</sup> 8 hour(s). Form: Soluble</p> <p><b>NIOSH REL (United States, 2001).</b><br/>                 TWA: 0.5 mg/m<sup>3</sup> 10 hour(s).</p> <p><b>OSHA PEL 1989 (United States, 1989).</b><br/>                 TWA: 1 mg/m<sup>3</sup> 8 hour(s).</p>   |
| LEAD                                      | <p><b>ACGIH TLV (United States, 2000).</b><br/>                 TWA: 0.05 mg/m<sup>3</sup> 8 hour(s).</p> <p><b>NIOSH REL (United States, 2000).</b><br/>                 TWA: 0.1 mg/m<sup>3</sup> 10 hour(s).</p> <p><b>OSHA PEL 1989 (United States, 1989).</b><br/>                 TWA: 50 µg/m<sup>3</sup> 8 hour(s).</p>   |
| BARIUM SULFATE                            | <p><b>ACGIH TLV (United States, 2001). Notes: The value is for total dust containing no asbestos and &lt; 1% crystalline silica.</b><br/>                 TWA: 10 mg/m<sup>3</sup> 8 hour(s).</p> <p><b>NIOSH REL (United States, 2001).</b><br/>                 TWA: 5 mg/m<sup>3</sup> 10 hour(s). Form: Respirable fraction<br/>                 TWA: 10 mg/m<sup>3</sup> 10 hour(s). Form: Total</p> <p><b>OSHA PEL 1989 (United States, 1989).</b><br/>                 TWA: 0.5 mg/m<sup>3</sup> 8 hour(s).<br/>                 TWA: 5 mg/m<sup>3</sup> 8 hour(s). Form: Respirable fraction<br/>                 TWA: 10 mg/m<sup>3</sup> 8 hour(s). Form: Total dust</p>  |

Consult local authorities for acceptable exposure limits.

## Section 9. Physical and Chemical Properties

|                                      |                           |                   |                          |
|--------------------------------------|---------------------------|-------------------|--------------------------|
| <b>Physical State and Appearance</b> | Liquid.                   | <b>Odor</b> Mild. | <b>Color</b> Medium Red. |
| <b>pH</b>                            | Not applicable.           |                   |                          |
| <b>Boiling Point</b>                 | 160 °C                    |                   |                          |
| <b>Melting/Freezing Point</b>        | Not available.            |                   |                          |
| <b>Specific Gravity</b>              | 1.31 (Water = 1)          |                   |                          |
| <b>VOC</b>                           | 401 (g/l).                |                   |                          |
| <b>Solubility</b>                    | Soluble in Butyl acetate. |                   |                          |

## Section 10. Stability and Reactivity

|   |  |
|---|--|
| <b>Stability and Reactivity</b>         | Stable under recommended storage and handling conditions (see section 7).                  |
| <b>Conditions of Instability</b>        | Keep away from heat, sparks and flame.   |
| <b>Incompatible Substances</b>          | Reactive with oxidizing agents.  |
| <b>Hazardous Decomposition Products</b> | In a fire, toxic gases, including oxides of carbon, sulfur, and nitrogen. Metallic oxides. |
| <b>Hazardous Polymerization</b>         | Will not occur.  |

## Section 11. Toxicological Information

### Toxicity Data

| <u>Ingredient Name</u>                    | <u>Test</u> | <u>Result</u> | <u>Route</u> | <u>Species</u> |
|---|-------------|---------------|--------------|----------------|
| DIETHYLENE GLYCOL ETHYL ETHER ACETATE     | LD50        | 4400 mg/kg    | Oral         | Rabbit         |
|   | LD50        | 3930 mg/kg    | Oral         | Guinea pig     |
| DIPROPYLENE GLYCOL METHYL ETHER           | LD50        | 7500 mg/kg    | Oral         | Dog            |
| PROPYLENE GLYCOL MONOMETHYL ETHER ACETATE | LD50        | 8532 mg/kg    | Oral         | Rat            |
| LEAD                                      | LDLo        | 160 mg/kg     | Oral         | pigeon         |

**Chronic Effects on Humans** Classified A3 (Proven for animal.) by ACGIH, 2B (Possible for human.) by IARC [LEAD].  
**MUTAGENIC EFFECTS: None identified.**  
**TERATOGENIC EFFECTS: None identified.**

**Special Remarks on Toxicity** Lead has been indicated in renal tumor production in rodent studies. Human studies have been inconclusive.

**Special Remarks on Chronic Effects on Humans** Chronic exposure to lead can result in severe damage to blood forming, nervous, urinary and reproductive systems in humans.

**Special Remarks on Other Toxic Effects on Humans** Absorption of toxic amounts through the skin is unlikely under ordinary conditions of industrial use. Lead poisoning is possible if this product is chronically ingested. Systemic toxicity is very unlikely under ordinary conditions of industrial use. The glycol ether in this product does not cause adverse effects on the male or female reproductive system.

Any component listed in this section that is not listed in Section 2 is present in the product in concentrations below legal disclosure limits ( 1% for hazardous components and 0.1% for carcinogens )

## Section 12. Ecological Information

Enthone has not conducted specific studies on the ecotoxicity or enviromental fate of this product.

## Section 13. Disposal Considerations

**Waste Information** Waste must be disposed of in accordance with federal, state and local environmental control regulations.

## Section 14. Transport Information

**DOT Classification** -  
**UN number** Not regulated.  
**Proper shipping name** -  
**Special Remarks on Transportation Information** Ink Materials, NMFC Item 101720, Class 55

*This Transport Information applies only to the Product Code Number(s) listed in Section 1. Other container sizes may require different Transport Information. If assistance is required, contact Regulatory Affairs at 203-799-4936.*

## Section 15. Regulatory Information

**U.S. Federal Regulations** SARA 313 toxic chemical notification and release reporting: DIETHYLENE GLYCOL ETHYL ETHER ACETATE; CHROMIUM, HEXAVALENT; LEAD

*All ingredients comply with applicable rules or orders under TSCA*

### State Regulations

California prop. 65: This product contains the following ingredients for which the State of California has found to cause reproductive harm (female) which would require a warning under the statute: LEAD  
 California prop. 65: This product contains the following ingredients for which the State of California has found to cause reproductive harm (male) which would require a warning under the statute: LEAD  
 California prop. 65 (acceptable daily intake level): LEAD  
 California prop. 65: This product contains the following ingredients for which the State of California has found to cause birth defects which would require a warning under the statute: LEAD  
 California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: LEAD

Any component listed in this section that is not listed in Section 2 is present in the product in concentrations below legal disclosure limits (1% for hazardous components and 0.1% for carcinogens).

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## Section 16. Other Information

### Definition of Terms

|              |   |
|--------------|---|
| ACGIH        | American Conference of Governmental Industrial Hygienists |
| Ceiling      | Maximum exposure limit defined by OSHA                    |
| CAS          | Chemical Abstract Service                                 |
| IARC         | International Agency for Research on Cancer               |
| NIOSH        | National Institute for Occupational Safety and Health     |
| NTP          | National Toxicology Program                               |
| OSHA         | Occupational Safety and Health Administration             |
| PEL          | Permissible Exposure Limit                                |
| REL          | Recommended Exposure Limit                                |
| RTK          | Right to Know   |
| SARA         | Superfund Amendments and Reauthorization Act              |
| STEL         | Short Term Exposure Limit                                 |
| TLV          | ACGIH Threshold Limit Value                               |
| TLV-C        | ACGIH Threshold Limit Value, Ceiling                      |
| TRADE SECRET | Claimed as allowed under 29CFR§1910.1200                  |
| TSCA         | Toxic Substances Control Act                              |

### Disclaimer

*This Material Safety Data Sheet may be used to comply with OSHA's Hazard Communication Standard, 29CFR§1910.1200. Enthone furnishes the data contained herein in good faith at customer's request without liability or legal responsibility for same whatsoever, and no warranty or guarantee, express or implied, is made with respect to such data; nor does Enthone grant permission, recommendation, or inducement to infringe any patent whether owned by Enthone or others. The data is offered solely for your information and consideration. Since conditions of use are beyond Enthone's control, user assumes all responsibility and risk.*

