

Health	3
Flammability	1
Reactivity	0
Personal Protection	

In Case of EmergencyCHEMTREC Number  
(800) 424-9300**Section 1. Chemical Product and Company Identification**

Product Name **ENTHONE® 50-200AR CAT-L-INK**  
 Product Code Number(s) 135636  
                           135637  
                           135638  
 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 12/01/00                           Revision No. **2**  
 Print Date 3/20/2003.                           Validation Date **3/20/2003.**  
 Prepared by Anton Mayer - Regulatory Specialist

**Section 2. Composition, Information on Ingredients**

Name	CAS #	% by Weight
PROPRIETARY EPOXY RESINS AND POLYMERS		35-50
BARIUM SULFATE	7727-43-7	10-20
CADMUM SULFIDE	1306-23-6	10-20
DIETHYLENE GLYCOL ETHYL ETHER ACETATE	112-15-2	7-15
DIPROPYLENE GLYCOL MONOMETHYL ETHER	34590-94-8	5-10
PROPYLENE GLYCOL MONOMETHYL ETHER ACETATE	108-65-6	5-10
ZINC SULFIDE	1314-98-3	<5

*All ingredients comply with applicable rules or orders under TSCA***Section 3. Hazards Identification**

Physical State and Appearance	Liquid.	Odor	Mild.	Color	Yellow.
Emergency Overview	WARNING!				
	Hazardous in case of ingestion.				
Routes of Entry	Absorbed through skin. Eye contact. Inhalation. Ingestion.				
Potential Acute Health Effects					
	<b>Eyes</b> Hazardous in case of eye contact (irritant, corrosive).				
	<b>Skin</b> Slightly hazardous in case of skin contact (irritant). Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.				
	<b>Inhalation</b> Slightly hazardous in case of inhalation (lung irritant).				
	<b>Ingestion</b> Extremely hazardous in case of ingestion. May be fatal if swallowed. May cause nausea and vomiting.				
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. Prolonged skin exposure may lead to sensitization and allergic reaction. Repeated or prolonged exposure may cause irritation and dermatitis.				

## Section 4. First Aid Measures

<b>Eye Contact</b>	Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.
<b>Skin Contact</b>	Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops.
<b>Inhalation</b>	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if symptoms appear.
<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: 65.6°C (150.1°F). (Setaflash.)
<b>Products of Combustion</b>	These products are carbon oxides (CO, CO <sub>2</sub> ), sulfur oxides (SO <sub>2</sub> , SO <sub>3</sub> ...). Some metallic oxides.
<b>Fire Fighting Media and Instructions</b>	<b>SMALL FIRE:</b> Use DRY chemical powder. <b>LARGE FIRE:</b> 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.

## Section 6. Accidental Release Measures

<b>Small Spill and Leak</b>	Absorb with an inert material and put the spilled material in an appropriate waste disposal.
<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.
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<b>Personal Protection</b>	<b>Eyes</b> Splash goggles. <b>Body</b> Synthetic apron. <b>Respiratory</b> 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. <b>Hands</b> Impervious gloves. <b>Feet</b> Boots.
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<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.
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<b>Ingredient Name</b>	<b>Exposure Limits</b>
DIPROPYLENE GLYCOL MONOMETHYL ETHER	<b>ACGIH TLV (United States, 2001). Skin</b> STEL: 909 mg/m <sup>3</sup> 15 minute(s). STEL: 150 ppm 15 minute(s). TWA: 606 mg/m <sup>3</sup> 8 hour(s). TWA: 100 ppm 8 hour(s).
	<b>NIOSH REL (United States, 2001). Skin</b> STEL: 900 mg/m <sup>3</sup> 15 minute(s). STEL: 150 ppm 15 minute(s). TWA: 600 mg/m <sup>3</sup> 10 hour(s). TWA: 100 ppm 10 hour(s).

**OSHA PEL (United States, 1971).** Skin  
TWA: 600 MGM3 8 hour(s).  
TWA: 100 ppm 8 hour(s).

**OSHA PEL 1989 (United States, 1989).** Skin  
STEL: 900 mg/m<sup>3</sup> 15 minute(s).  
STEL: 150 ppm 15 minute(s).  
TWA: 600 mg/m<sup>3</sup> 8 hour(s).  
TWA: 100 ppm 8 hour(s).

**AIHA WEEL (United States, 2001).**  
TWA: 100 ppm 8 hour(s).

**ACGIH TLV (United States, 2001).** Notes: The value is for total dust containing no asbestos and < 1% crystalline silica.  
TWA: 10 mg/m<sup>3</sup> 8 hour(s).

**NIOSH REL (United States, 2001).**  
TWA: 5 mg/m<sup>3</sup> 10 hour(s). Form: Respirable fraction  
TWA: 10 mg/m<sup>3</sup> 10 hour(s). Form: Total

**OSHA PEL (United States, 1971).**  
TWA: 5 MGM3 8 hour(s). Form: Respirable fraction  
TWA: 15 MGM3 8 hour(s). Form: Total dust

**OSHA PEL 1989 (United States, 1989).**  
TWA: 0.5 mg/m<sup>3</sup> 8 hour(s).  
TWA: 5 mg/m<sup>3</sup> 8 hour(s). Form: Respirable fraction

TWA: 10 mg/m<sup>3</sup> 8 hour(s). Form: Total dust  
**ACGIH TLV (United States, 2001).**

TWA: 0.002 mg/m<sup>3</sup> 8 hour(s).

**OSHA PEL 1989 (United States, 1989).** Notes: As Cadmium

CEIL: 0.6 mg/m<sup>3</sup> Form: Dust

CEIL: 0.3 mg/m<sup>3</sup> Form: Fume

TWA: 0.2 mg/m<sup>3</sup> 8 hour(s). Form: Dust

TWA: 0.1 mg/m<sup>3</sup> 8 hour(s). Form: Fume

TWA: 5 µg/m<sup>3</sup> 8 hour(s).

**OSHA PEL Z2 (United States, 2002).** Notes: As Cadmium

CEIL: 0.6 mg/m<sup>3</sup> Form: Dust

CEIL: 0.3 mg/m<sup>3</sup> Form: Fume

TWA: 0.2 mg/m<sup>3</sup> 8 hour(s). Form: Dust

TWA: 0.1 mg/m<sup>3</sup> 8 hour(s). Form: Fume

PROPYLENE GLYCOL MONOMETHYL ETHER ACETATE

BARIUM SULFATE

CADMIUM SULFIDE

Consult local authorities for acceptable exposure limits.

## Section 9. Physical and Chemical Properties

Physical State and Appearance	Liquid.	Odor	Mild.	Color	Yellow.
pH	Not available.				
Boiling Point	Not available.				
Melting/Freezing Point	Not available.				
Specific Gravity	1.42 (Water = 1)				
VOC	388 (g/l).				
Solubility	Not available.				

## Section 10. Stability and Reactivity

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

## Section 11. Toxicological Information

### Toxicity Data

Ingredient Name	Test	Result	Route	Species
DIPROPYLENE GLYCOL MONOMETHYL ETHER	LD50	7500 mg/kg	Oral	Dog
PROPYLENE GLYCOL MONOMETHYL ETHER ACETATE	LD50	8532 mg/kg	Oral	Rat
CADMIUM SULFIDE	LD50	7080 mg/kg	Oral	Rat
	LD50	1166 mg/kg	Oral	Mouse

Chronic Effects on Humans	<b>CARCINOGENIC EFFECTS:</b> Classified 1 (Proven for human.) by IARC, 1 (Known To Be Human Carcinogens.) by NTP, + (Proven.) by OSHA [CADMIUM SULFIDE]. Classified 3 (Possible for human.) by European Union [CADMIUM SULFIDE]. Classified A2 (Suspected for human.) by ACGIH [CADMIUM SULFIDE]. <b>MUTAGENIC EFFECTS:</b> None identified. <b>TERATOGENIC EFFECTS:</b> None identified.
Special Remarks on Toxicity	No additional remark.

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

Enthon has not conducted specific studies on the ecotoxicity or environmental 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; ZINC SULFIDE; CADMIUM SULFIDE
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*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 cancer, birth defects or other reproductive harm, which would require a warning under the statute: CADMIUM SULFIDE

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: CADMIUM SULFIDE

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: CADMIUM SULFIDE

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: CADMIUM SULFIDE

*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 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.*



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