

ENTHONE

MATERIAL SAFETY DATA SHEET

Health	2
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® 50-92261 CAT-L-INK
Product Code Number(s) 134989
134990
134991
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 8/10/2000 **Revision No.** 1
Print Date 3/17/2004. **Validation Date** 3/17/2004.
Prepared by Richard Barton

Section 2. Composition, Information on Ingredients

Name	CAS #	% by Weight
LEAD	7439-92-1	10-20
LEAD CHROMATE	7758-97-6	10-20
DIETHYLENE GLYCOL MONOETHYL ETHER ACETATE	112-15-2	5-10
DIPROPYLENE GLYCOL MONO METHYL ETHER	34590-94-8	5-10
PROPYLENE GLYCOL MONOMETHYL ETHER ACETATE	108-65-6	5-10
PRECIPITATED SILICA	112926-00-8	5-10
CHROMIUM	7440-47-3	1-5
BARIUM METAL	7440-39-3	1-5
4-METHYLPENTAN-2-ONE	108-10-1	1-5
PROPYLENE GLYCOL MONOMETHYL ETHER	107-98-2	1-5

All ingredients comply with applicable rules or orders under TSCA

Section 3. Hazards Identification

Physical State and Appearance Liquid. **Odor** Slight. **Color** Yellow.

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 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, lung sensitizer).

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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.

Section 4. First Aid Measures

Eye Contact 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.

Skin Contact In case of contact, immediately flush skin with plenty of water. Seek medical attention if irritation persists.

Inhalation If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Seek medical attention.

Section 5. Fire Fighting Measures

Flammability of the Product Combustible.

Flash Points Closed cup: 62.77°C (145°F). (Setaflash.)

Products of Combustion These products are carbon oxides (CO, CO₂). Some metallic oxides.

Fire Fighting Media and Instructions
SMALL FIRE: Use DRY chemical powder.
LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

Protective Equipment (Fire) Wear NIOSH approved self-contained breathing apparatus or equivalent and full protective gear.

Special Remarks on Fire and Explosion Hazards Vapor may travel considerable distance to source of ignition and flash back.

Section 6. Accidental Release Measures

Spill or Leak Wear protective equipment, see Section VIII. Stop leak if without risk. Keep away from sources of ignition. Prevent entry into sewers, basements or confined areas; dike if needed. Absorb with an inert material and place in a plastic lined DOT approved waste disposal container. Dispose of according to all applicable regulations.

Section 7. Handling and Storage

Handling Keep away from heat, sparks and flame. Keep container closed. Use only with adequate ventilation. To avoid fire, minimize ignition sources.

Storage 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

Engineering Controls 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 Face shield. Splash goggles.

Body Synthetic apron. Additional body garments should be used based upon the task being performed (e.g., sleevelets, gauntlets, disposable suits) to avoid exposed skin surfaces.

Respiratory Wear appropriate respirator when ventilation is inadequate. 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. Be sure to use a MSHA/NIOSH approved respirator or equivalent. Employers must ensure that employees are properly fitted and trained in the use of respiratory and other personal protection equipment. Employers must assure through industrial hygiene monitoring, engineering control and the selection of proper personal protection equipment that employees working with or around this product are not exposed to contaminant levels above those allowed by OSHA 29 CFR 1910.

Hands Impervious gloves.

Feet Rubber Boots.

Protective Equipment (Pictograms)



Personal Protection in Case of a Large Spill Face shield. Splash goggles. Full suit. Rubber 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.

Ingredient Name

DIPROPYLENE GLYCOL MONO METHYL ETHER

Exposure Limits

ACGIH TLV (United States, 2001). Skin

STEL: 909 mg/m³ 15 minute(s).

STEL: 150 ppm 15 minute(s).

TWA: 606 mg/m³ 8 hour(s).

TWA: 100 ppm 8 hour(s).

NIOSH REL (United States, 2001). Skin

STEL: 900 mg/m³ 15 minute(s).

STEL: 150 ppm 15 minute(s).

TWA: 600 mg/m³ 10 hour(s).

TWA: 100 ppm 10 hour(s).

OSHA PEL 1989 (United States, 1989). Skin

STEL: 900 mg/m³ 15 minute(s).

STEL: 150 ppm 15 minute(s).

TWA: 600 mg/m³ 8 hour(s).

TWA: 100 ppm 8 hour(s).

OSHA PEL (United States, 1993). Skin Notes:

TWA: 600 mg/m³ 8 hour(s).

TWA: 100 ppm 8 hour(s).

AIHA WEEL (United States, 2001).

TWA: 100 ppm 8 hour(s).

PROPYLENE GLYCOL MONOMETHYL ETHER

ACETATE

LEAD CHROMATE

ACGIH TLV (United States, 2001).

TWA: 0.05 mg/m³ 8 hour(s).

OSHA PEL 1989 (United States, 1989).

CEIL: 0.1 mg/m³

TWA: 50 • g/m³ 8 hour(s).

OSHA PEL Z2 (United States, 2001).

CEIL: 1 MG10M3

LEAD

ACGIH TLV (United States, 2000).

TWA: 0.05 mg/m³ 8 hour(s).

NIOSH REL (United States, 2000).

TWA: 0.1 mg/m³ 10 hour(s).

OSHA PEL 1989 (United States, 1989).

TWA: 50 • g/m³ 8 hour(s).

CHROMIUM

ACGIH TLV (United States, 2001).

TWA: 0.5 mg/m³ 8 hour(s). Form: Inorganic

TWA: 0.01 mg/m³ 8 hour(s). Form: Insoluble

TWA: 0.05 mg/m³ 8 hour(s). Form: Soluble

NIOSH REL (United States, 2001).

TWA: 0.5 mg/m³ 10 hour(s).

OSHA PEL 1989 (United States, 1989).

TWA: 1 mg/m³ 8 hour(s).

OSHA PEL (United States, 1993). Notes:

TWA: 1 mg/m³ 8 hour(s).

BARIUM METAL

ACGIH TLV (United States, 2002).

TWA: 0.5 mg/m³ 8 hour(s).

PRECIPITATED SILICA

ACGIH TLV (United States, 2000).

TWA: 10 mg/m³ 8 hour(s).

TWA: 10 mg/m³ 8 hour(s). Form: Gel

OSHA PEL 1989 (United States, 1989).

TWA: 6 mg/m³ 8 hour(s).

4-METHYLPENTAN-2-ONE

ACGIH TLV (United States, 2000).

STEL: 307 mg/m³ 15 minute(s).

STEL: 75 ppm 15 minute(s).

TWA: 205 mg/m³ 8 hour(s).

TWA: 50 ppm 8 hour(s).

NIOSH REL (United States, 2000).

STEL: 300 mg/m³ 15 minute(s).

STEL: 75 ppm 15 minute(s).

TWA: 205 mg/m³ 10 hour(s).

TWA: 50 ppm 10 hour(s).

OSHA PEL 1989 (United States, 1989).

STEL: 300 mg/m³ 15 minute(s).

PROPYLENE GLYCOL MONOMETHYL ETHER

STEL: 75 ppm 15 minute(s).
TWA: 205 mg/m³ 8 hour(s).
TWA: 50 ppm 8 hour(s).
ACGIH TLV (United States, 2002).
STEL: 553 mg/m³ 15 minute(s).
STEL: 150 ppm 15 minute(s).
TWA: 369 mg/m³ 8 hour(s).
TWA: 100 ppm 8 hour(s).
NIOSH REL (United States, 2001).
STEL: 540 mg/m³ 15 minute(s).
STEL: 150 ppm 15 minute(s).
TWA: 360 mg/m³ 10 hour(s).
TWA: 100 ppm 10 hour(s).
OSHA PEL 1989 (United States, 1989).
STEL: 540 mg/m³ 15 minute(s).
STEL: 150 ppm 15 minute(s).
TWA: 360 mg/m³ 8 hour(s).
TWA: 100 ppm 8 hour(s).

Consult local authorities for acceptable exposure limits.

Section 9. Physical and Chemical Properties

Physical State and Appearance	Liquid.	Odor Slight.	Color Yellow.
pH	Acidic.		
Boiling Point	160 °C		
Melting/Freezing Point	Not available		
Specific Gravity	1.47 (Water = 1)		
VOC	400 (g/l).		
Solubility	Insoluble in cold water, hot water.		

Section 10. Stability and Reactivity

Stability and Reactivity	Stable under recommended storage and handling conditions (see section 7).
Conditions of Instability	Strong acids, hydrogen fluoride (PRECIPITATED SILICA)
Incompatible Substances	Reactive with oxidizing agents.
Hazardous Decomposition Products	These products are carbon oxides (CO, CO ₂) Some metallic oxides.
Hazardous Polymerization	Will not occur.

Section 11. Toxicological Information

Toxicity Data

Ingredient Name	Test	Result	Route	Species
DIETHYLENE GLYCOL MONOETHYL ETHER ACETATE	LD50	4400 mg/kg	Oral	Rabbit
DIPROPYLENE GLYCOL MONO METHYL ETHER	LD50	3930 mg/kg	Oral	Guinea pig
PROPYLENE GLYCOL MONOMETHYL ETHER ACETATE	LD50	7500 mg/kg	Oral	Dog
LEAD	LDLo	8532 mg/kg	Oral	Rat
4-METHYLPENTAN-2-ONE	LD50	160 mg/kg	Oral	pigeon
	LD50	2080 mg/kg	Oral	Rat
	LD50	1600 mg/kg	Oral	Guinea pig
	LD50	1900 mg/kg	Oral	Mouse
PROPYLENE GLYCOL MONOMETHYL ETHER	LD50	5700 mg/kg	Oral	Rabbit
	LD50	11700 mg/kg	Oral	Mouse

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Chronic Effects on Humans **CARCINOGENIC EFFECTS:** Classified 1 (Proven for human.) by IARC, 1 (Known To Be Human Carcinogens.) by NTP [LEAD CHROMATE]. Classified A2 (Suspected for human.) by ACGIH, 2 (Suspected for human.) by European Union [LEAD CHROMATE]. Classified A3 (Proven for animal.) by ACGIH [LEAD SULFATE]. Classified A3 (Proven for animal.) by ACGIH, 2B (Possible for human.) by IARC [LEAD]. Classified 3 (Not classifiable for human.) by IARC [CHROMIUM]. Classified A4 (Not classifiable for human or animal.) by ACGIH [ALUMINUM OXIDE].

MUTAGENIC EFFECTS: None Identified.

TERATOGENIC EFFECTS: None Identified.

Special Remarks on Toxicity The glycol ether in this product does not cause adverse effects on the male and female reproductive systems. Absorption of toxic amounts through the skin is unlikely under ordinary conditions of industrial use. Lead has been indicated in renal tumor production in rodent studies. Human studies have been inconclusive. Epidemiological studies indicate that long term exposure to high levels of dust and mist in the chromate producing industry is associated with increases in respiratory tract cancer in man; the causative agent is not known. Epidemiological studies suggest a relationship between occupational (respiratory) exposure to cadmium and lung and prostate cancers.

Special Remarks on Chronic Effects on Humans Central nervous system depression, acidosis, renal damage, hematuria and oxaluria are possible following the ingestion of large volumes due to ethylene glycol like compounds. Chronic overexposure to lead compounds can result in lead poisoning, including severe damage to blood-forming, nervous, urinary, and reproductive systems of humans. Chronic overexposure to lead has also resulted in kidney damage. Overexposure to tin compounds may cause benign pneumoconiosis. Eczematoid dermatitis caused by trivalent chromium compounds has been reported.

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 environmental fate of this product.

Section 13. Disposal Considerations

Waste Information Waste must be disposed of in accordance with all applicable 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 MONOETHYL ETHER ACETATE; LEAD CHROMATE; LEAD; CHROMIUM; BARIUM METAL; 4-METHYLPENTAN-2-ONE
TSCA 4(a) final test rules: 4-METHYLPENTAN-2-ONE
TSCA 5(a)2 final significant rules: YE-637D YE-937 LD MOLYBDATE ORANGE PIGMENT
TSCA 5(a)2 proposed significant rules: YE-637D YE-937 LD MOLYBDATE ORANGE PIGMENT
TSCA 12(b) annual export notification: YE-637D YE-937 LD MOLYBDATE ORANGE PIGMENT
TSCA 12(b) one time export: 4-METHYLPENTAN-2-ONE

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: 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 CHROMATE; LEAD SULFATE; 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).

Section 16. Other Information

Other Special Considerations Enthone recommends that employers develop, implement, and train all employees in proper workplace safety procedures and practices as contained in OSHA 29 CFR Part 1910 (Occupational Safety and Health Standards).

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.

