



# MATERIAL SAFETY DATA SHEET

PRODUCT: Pad Printing Ink  
REVISION NUMBER: 1

REVISION DATE: 06/23/2008  
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## 1. PRODUCT AND COMPANY IDENTIFICATION

MANUFACTURED BY: TherMark Holdings, Inc.  
33 Hammond  
Suite 205  
Irvine, CA 92618  
Prod Info 323-344-9500  
CHEMTREC 800-424-9300

Use the CHEMTREC telephone number only in the event of chemical emergencies.

PREPARED BY: Joel Assaraf  
Chief Executive Officer

PRODUCT CODE: LMP500.100

PRODUCT TRADE NAME: LMP500 Black Pad Printing Ink for Laser Marking of Plastics

CAS NO: Mixture  
CHEMICAL FAMILY: Decorative Coating  
PRODUCT TYPE: Laser Marking Coating

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

This product does not have exposure limit values. Exposure limit values for some of the components are listed below as a guideline for safe use of this product.

INGREDIENTS/CAS #	OSHA PEL:	ACGIH TLV:
Petroleum Distillates 64742-95-6	None established	None established
Iron Oxide 1309-37-1	TWA 10 mg/m <sup>3</sup>	TWA as Fe: 5 mg/m <sup>3</sup>
Chromium (III) Compound NONE	TWA as Cr (III) 0.5 mg/m <sup>3</sup>	TWA as Cr (III) 0.5 mg/m <sup>3</sup>
Manganese Compound NONE	TWA Dust and Fume: Ceiling 5.0 mg/m <sup>3</sup>	TWA Dust and Fume: 0.2 mg/m <sup>3</sup>
Nickel Compound NONE	TWA as Ni: 1.0 mg/m <sup>3</sup>	TWA as Ni: 0.2 mg/m <sup>3</sup>
Mica 12001-26-2	TWA 20 mppcf	TWA respirable fraction: 3 mg/ m <sup>3</sup>
1,2,4-trimethylbenzene 95-63-6	TWA 25 ppm	TWA 25 ppm
Isophorone 78-59-1	TWA 25 ppm	Ceiling: 5 ppm
Cyclohexanone 108-94-1	TWA 50 ppm	TWA 20 ppm; STEL 50 ppm; Skin
Ethyl 3-ethoxypropionate 763-69-9	None established	None established

### **3. HAZARDS IDENTIFICATION**

**PRINCIPLE ROUTES OF EXPOSURE:** Inhalation, ingestion and dermal.

**The key immediate hazards are:**

Combustible liquid  
Skin, eye, and respiratory irritant  
May cause allergic skin and respiratory reactions.

**Effects from Acute Exposure:**

**EYE CONTACT :** Causes eye irritation.  
**SKIN CONTACT:** May cause an allergic skin reaction.  
**INHALATION:** May cause an allergic respiratory reaction.  
**INGESTION:** May be harmful if swallowed.

**AGGRAVATED MEDICAL CONDITIONS:**

Allergic skin and respiratory reactions.

**Effects from Chronic Exposure:**

**CARCINOGENIC INGREDIENTS:**

Nickel and certain nickel compounds: There is sufficient evidence of the carcinogenicity of nickel and nickel compounds (NTP-1985) also, (IARC 1976, vol. 11) states there is sufficient evidence for the carcinogenicity of certain nickel compounds. Nickel subsulfide is carcinogenic in rats by inhalation, producing lung cancer. Nickel compounds (nickel powder, subsulfide, oxide, carbonate, and nickelocene) produced local sarcomas in mice, rats and hamsters when given intramuscularly. Inhalation of nickel carbonyl produced a low incidence of lung tumors in rats.

**OVEREXPOSURE EFFECTS:**

**CONTAINS CHROMIUM (III) COMPOUNDS:**

Compounds of chromium, in its trivalent state, have no established toxicity. Skin contact has been reported to cause skin irritation. Allergic skin reactions may occur in sensitive individuals, although it is believed that the hexavalent (VI) form of chromium is responsible for most of the reported cases.

**CONTAINS IRON OXIDE (AS REACTED INTO THE PIGMENT):**

Long-term inhalation of iron oxide dust may lead to siderosis or iron deposition in the lung. This is not considered to be a hazardous condition.

**CONTAINS MANGANESE COMPOUNDS:**

Manganese compounds are not considered toxic by ingestion or skin contact. Chronic overexposure to manganese and its compounds, such as manganese oxide, is potentially hazardous due to effects on the central nervous system. This occupational disease called "manganism" has been identified as occurring at levels well above the current recommended exposure limit.

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**CONTAINS NICKEL COMPOUNDS:**

Nickel overexposure can cause allergic skin reactions and asthma. Inhalation can cause effects on the lungs such as bronchitis, emphysema, and impaired function, as well as kidney damage. Swallowing can result in nausea, vomiting, diarrhea and abdominal cramps. Chronic overexposure during nickel production has been shown to cause lung and nasal cavity cancers in workers; these effects are directly related to the degree of exposure. The compounds associated with the production environment included metallic nickel, nickel oxides and nickel sulfides. Workplaces other than those involved with mining, refining, and alloy manufacture have not been studied.

## 4. FIRST AID MEASURES

**INGESTION:** If swallowed, do not induce vomiting. Rinse mouth and get immediate medical attention. Do not give anything by mouth to an unconscious or convulsing person.

**SKIN:** For skin contact, wash affected areas with plenty of water, and soap if available, for several minutes. Get medical attention if irritation occurs.

**INHALATION:** If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

**EYES:** For eye contact, immediately flush eyes for at least 15 minutes with running water. Hold eyelids apart to ensure rinsing of the entire eye surface and lids with water. Get immediate medical attention if irritation develops.

**NOTES TO PHYSICIAN:** None specified.

## 5. FIRE FIGHTING MEASURES

**OSHA FLAMMABILITY CLASS:** COMBUSTIBLE

**FLASH POINT:** >100° F ; <140° F

**Flashpoint Method:** Pensky-Martin Closed Cup or Grabner Mini-flash

**Lower Explosive Limit:** Not Available

**Upper Explosive Limit:** Not Available

**EXTINGUISHING MEDIA:** Water

**FIRE FIGHTING PROCEDURES:** Fire-Fighters should wear self-contained breathing apparatus and full protective clothing when fighting chemical fires.

Use water spray to cool nearby containers and structures exposed to fire.

**UNUSUAL HAZARDS:** Decomposition and combustion products may be toxic.

## **6. ACCIDENTAL RELEASE MEASURES**

**SPILL PROCEDURES:** Wear appropriate protective equipment. Avoid the generation of dust. Collect material and place in closable container(s) for disposal.

## **7. HANDLING AND STORAGE**

**PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:** Avoid contact with eyes, skin and clothing.

**NOTES ON HANDLING INFORMATION:** Minimize dust generation during handling. Use adequate ventilation.

## **8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**VENTILATION:** Adequate ventilation should be provided to keep concentrations below acceptable Exposure Limits. Discharge from the ventilation system should comply with the applicable air pollution control regulations.

**EYE PROTECTION:** Wear safety glasses or goggles to protect against exposure.

**PROTECTIVE GLOVES:** Use gloves as a standard industrial handling procedure.

**RESPIRATORY PROTECTION:** Appropriate respiratory protection is required when exposure to airborne contaminant is likely to exceed acceptable limits. Respirators should be selected and used in accordance with OSHA Subpart I (29 CFR 1910.134) and manufacturer's recommendations.

**OTHER PERSONAL PROTECTIVE EQUIPMENT:** None specified.

## **9. PHYSICAL AND CHEMICAL PROPERTIES**

**APPEARANCE:** Black Ink

**BOILING POINT:** Not Available

**VAPOR DENSITY (AIR=1):** Heavier than air

**EVAP. RATE(BUTYL ACETATE=1):** Slower than n-butyl acetate

**VOC, Wt.% (EPA METH.24):** Unknown

**BULK DENSITY:** 1.7 grams per cubic centimeter

**SOLUBILITY (in water):** Insoluble

## **10. STABILITY AND REACTIVITY**

**STABILITY DATA:** STABLE

**POLYMERIZATION:** WILL NOT OCCUR

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**HAZARDOUS DECOMPOSITION PRODUCTS:** Carbon monoxide, carbon dioxide and depending on conditions, some hydrocarbon fragments may also be formed.

**INCOMPATIBILITY**

**(MATERIALS TO AVOID):** Strong oxidizing agents

**CONDITIONS/HAZARDS TO AVOID:** None known.

**11. TOXICOLOGICAL INFORMATION**

No Toxicological data known.

**12. ECOLOGICAL INFORMATION**

**ECOTOXICOLOGICAL INFORMATION:** No data at this time

**CHEMICAL FATE INFORMATION:** No data at this time.

**PERSISTENCE/DEGRADABILITY:** No data at this time.

**APPRAISAL:** No data at this time.

**MOBILITY:** No data at this time.

**13. DISPOSAL CONSIDERATIONS**

**DISPOSAL OF WASTE METHOD:** Dispose in accordance with Federal, State and Local regulations.

**14. TRANSPORT INFORMATION**

**DOT Shipping Name:** PAINT RELATED MATERIAL

**DOT HAZARD CLASS:** 3

**DOT LABEL(S):** FLAMMABLE LIQUID

**UN/NA NUMBER:** UN1263

**PACKING GROUP:** PG III

**15. REGULATORY INFORMATION**

**SARA SECTION 302:** None Found

**SARA (311, 312) HAZARD CLASS:** ACUTE HEALTH HAZARD  
CHRONIC HEALTH HAZARD  
FIRE HAZARD

**SARA 313 Title III Toxic Chemical List:**

**The following chemicals are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR part 372.**

39	%	Manganese compounds	7	%	Metal as Mn
39	%	Nickel compounds	6	%	Metal as Ni
39	%	Chromium (III) compounds	7	%	Metal as Cr
3	%	1,2,4-trimethylbenzene			

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**TSCA Inventory Status:** This product (and/or all of its components) is in compliance with the U.S. EPA Toxic Substance Control Act, TSCA, (15 U.S.C. 2604).

This product and all of its components is listed on the DSL inventory.

**California Proposition 65:**

This product contains chemicals known to the State of California to cause cancer.

<b>16. OTHER INFORMATION</b>
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**Revisions:** The Format has been changed to meet the requirements of the new ANSI Standard Z400.1.

**LABEL INFORMATION:**

**WARNING!**

Harmful if inhaled or swallowed.

Combustible. Contents may catch fire.

Skin, eye, and respiratory irritant.

May cause allergic skin reaction and asthma.

Inhalation may cause lung damage and cancer.

Do not breathe dust or vapors.

Use only in well ventilated area.

Keep away from flames and sparks.

Keep container closed when not in use.

Wash hands after handling.

Keep away from food.

Keep out of reach of children.

**FIRST AID:** In case of skin contact wash thoroughly. If in eyes, flush well. If breathing is difficult, move to fresh air and get immediate medical attention. If swallowed, rinse mouth and seek medical attention.

**IN CASE OF FIRE:** Use water, dry chemical or carbon dioxide.

**IN CASE OF SPILL:** Collect and dispose in accordance with federal, state and local regulations.

FOR INDUSTRIAL USE ONLY.

**Dispose of in accordance with all federal, state and local regulations.**

**DEFINITIONS AND ABBREVIATIONS :**

ACGIH = American Conference of Governmental Industrial Hygienists

C (CEIL) = The concentration that shall not be exceeded during any part of the working exposure.

CAS # = Chemical Abstracts Service Registry Number

EPA = Environmental Protection Agency

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

SARA = Superfund Amendments and Reauthorization Act

STEL = Short Term Exposure Limit. Usually a 15 minute time weighted average exposure.

TLV = Threshold Limit Values

TSCA = Toxic Substance Control Act

TWA = Time Weighted Average. Exposure concentration for a normal 8 hour day or 40 hour week.

VOC = Volatile Organic Content

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**DISCLAIMER:** The information contained in this Material Safety Data Sheet (MSDS) has been compiled from sources believed to be reliable and to represent the most reasonable current opinion on the subject when the MSDS was prepared. No guarantee is made as to the correctness or sufficiency of the information. The user of this product must decide what safety measures are necessary to safely use this product, either alone or in combination with other products, and determine the regulatory compliance obligations under any applicable federal or state laws.

\*\*\* END OF MSDS \*\*\*