MATERIAL SAFETY DATA SHEET

I. PRODUCT INFORMATION

Product Name: Sure Dot Projection Developer

Generic Description: Lithographic plate developer

Precautionary Labeling:

Possible cancer hazard based on tests with laboratory animals. Overexposure may create cancer risk. Reproductive hazard. Overexposure may cause female reproductive order. WARNING! Causes eye irritation. CAUTION! Combustible. Do not get in eyes, on skin, or on clothing. Avoid breathing vapor. Keep away from heat and flame. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling. First Aid: If inhaled, remove to fresh air. Treat symptomatically. Call a physician. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician. Flush skin with water.

D.O.T.
Name: Combustible Liquid
NOS: UN 1993

D.O.T. Hazard Classification: Combustible liquid

Flash Point: 121°F

II. HAZARDOUS INGREDIENTS AND ASSOCIATED EFFECTS

DIMETHYL FORMAMIDE: (SYN: DMF) (C.A.S. #68-12-2) (OSHA-air TWA=10ppm(skin)) (oral-rat LD50=2800mg/kg) (inh-mus LC50=9400mg/m3/2H) (Flash pt. 136°F) (Vap. pres. 3-4mm@25°C) High hazard via inhalation route and moderate via oral and dermal routes. Causes irritation to skin and eyes. Liver, kidney, and central nervous system disorders may be caused by repeated inhalation or absorption of excessive amounts. DMF is readily absorbed through intact skin and gloves should be worn to prevent absorption. Overexposure may cause nausea and abdominal pains. Formula percentage = 18%.

NOTE: HAZARDOUS INGREDIENTS MAY BE CONTINUED ON PAGE 2.
II. HAZARDOUS INGREDIENTS (CONTINUED):

PROPRIETARY INGREDIENTS:

2-ETHOXYETHYL ACETATE: (SYN: Ethylene glycol monoethyl ether acetate) (SYN: CelloSolve acetate) (C.A.S. #111-15-9) (TLV=5ppm) (ACGIH 1984) (Flash pt. 126°F TCC) (B. Pt. 313.3°F) (LD50 oral-rat 2900mg/kg) (eye-rbt 40mg SEV) (DOT-Combustible Liquid) Vapors at high concentrations are irritating to eyes, nose and respiratory tract. Animal studies have shown a possibility of teratogenic effects (non-transmissible birth defects). Adherence to the TLV above will avoid these and all other systemic effects. All skin contact should be avoided as potentially hazardous amounts can be absorbed through skin. Studies have shown that females are more susceptible to teratogenic effects than are males. Formula percentage = 2%.

ETHYLENEDICHLORIDE: (SYN: 1,2 Dichloroethane) (C.A.S. #107-06-2) (OSHA-air TWA:10ppm) (DOT-Flammable liquid) (Cancer status: Animal Positive) (Flash pt. 56°F) (vap. pres. 100mm @ 29.4°C) (oral-rat LD50=770mg/kg) High/Moderate hazards via oral and dermal routes. Ethylene dichloride has a strong narcotic effect and has a toxic effect on the liver and kidneys. Edema of the lungs has also been reported in animals. Dermatitis has been observed. Short exposure to high concentrations causes irritation of the eyes, nose, and throat followed by dizziness, nausea, vomiting, increasing stupor, cyanosis, rapid pulse, and loss of consciousness. Chronic poisoning, where exposure has occurred over a period of several months, may cause loss of appetite, nausea and vomiting, epigastric distress, tremors, nystagmus, leukocytosis, low blood sugar levels, and possibly dermatitis. Ethylene dichloride has been determined by the National Cancer Institute (NCI) and the International Agency for Research on Cancer (IARC) to be carcinogenic to laboratory animals. Currently this material is being reviewed by IARC and NCI to determine its possible effects on humans. Its most common use is as a component in leaded fuels. NIOSH has recommended reducing the TWA exposure to 1ppm with a 2ppm/15 min. ceiling. In view of the above it is recommended that products containing this ingredient be used only by personnel who have been properly trained, wear impervious gloves and work in an area with adequate local ventilation. Formula percentage = 1%.

CYCLOHEXANONE: (C.A.S. #108-94-1) (OSHA-air TWA=25ppm) (Flash pt.=111°F) (Vap. pres. 4.5mm@25°C) (oral-rat LD50=1620mg/kg) (eye-rbt 4740μg SEV) Cyclohexanone can cause narcosis at high concentrations. Moderate hazard via inhalation, dermal, and oral routes. Irritation to the eyes, nose, and throat may occur at the TLV(50ppm-air). May cause liver and/or kidney damage upon prolonged, excessive exposure. Formula percentage = 6%. 
III. EMERGENCY AND FIRST AID PROCEDURES:

Eyes & Skin: Flush with water for at least 15 minutes.
Inhalation: Remove to fresh air. If breathing is difficult, administer oxygen.
    If breathing has stopped, artificial respiration.
Ingestion: Drink 2 glasses of water and induce vomiting.
    In any of the preceding cases, CALL A PHYSICIAN.

IV. SPECIAL PROTECTION INFORMATION:

Protective Gloves: Plastic (PVC) or Rubber
Respiratory Protection: Air-purifying respirator above the TWA
Eye Protection: Safety glasses or chemical goggles
Other: Adequate ventilation

Ventilation:
Local Exhaust X Mechanical _______ Special _______

V. PHYSICAL DATA

Boiling Point: Not established Solubility in Water: Partial
Specific Gravity: 1.16 Appearance and Odor: Red emulsion with
% Volatiles (by Vol.): 65 solvent odor

VI. FIRE AND EXPLOSION HAZARD DATA

Flash Point: 121° F (TCC)
Extinguishing Media: CO₂, dry chemical, foam
Special Fire Fighting Procedures: Wear self-contained breathing apparatus
Unusual Fire and Explosion Hazards: none

VII. REACTIVITY DATA

Stability: Stable X Unstable _____
Conditions to Avoid: heat and flame
Incompatibility: strong oxidizers

Hazardous Decomposition Products: Carbon monoxide and/or Carbon dioxide, and
    dimethamine upon thermal decomposition

VIII. SPECIAL HANDLING AND STORAGE CONDITIONS

Wear gloves when using or handling this product. Do not inhale vapors. Keep
    away from heat and flame. Women of child-bearing age should avoid contact with
    this product.
## IX. SPILL, LEAK, AND DISPOSAL TECHNIQUES

<table>
<thead>
<tr>
<th>Steps to be taken if the material is released or spilled.</th>
<th>Soak up spill with suitable absorbent and hold for disposal. Wash area thoroughly with water.</th>
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</thead>
<tbody>
<tr>
<td>Waste Disposal Techniques</td>
<td>Liquid incineration or absorbent disposal according to federal, state, and local regulations.</td>
</tr>
</tbody>
</table>

Prepared by **Dr. Michael A. Molo** Date **3/24/87**

**NOTE:** The information contained herein is furnished without warranty of any kind. Users should consider this data a supplement to other information gathered by them and are responsible for completeness of information to assure proper use of these materials and the safety and health of their employees and customers.