



M A T E R I A L S A F E T Y D A T A S H E E T

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Section I - PRODUCT INFORMATION

PRODUCT NAME: MICROPOSIT(R) S1822 PHOTO RESIST

PRODUCT CLASS: Photoresist

EFFECTIVE DATE: 3 March 1989

MSDS # MC-00106 SUPERSEDES: 11-18-1987

PREPARED BY: T. Blakeslee

Section II - HAZARDOUS COMPONENTS

<u>COMPONENT</u>	<u>CAS #</u>	<u>WEIGHT%</u>	<u>ACGIH TLV</u> <u>ppm (mg/m3)</u>	<u>OSHA PEL</u> <u>ppm (mg/m3)</u>
Propylene glycol mono- methyl ether acetate	108-65-6	66	none established	none established
Novolak resins and photoactive cmpds.	*	34	N.A.	N.A.

* non-hazardous

Section III - HEALTH HAZARDS

CARCINOGENIC STATUS: Not considered carcinogenic by NTP, IARC and OSHA.

EXPOSURE LIMITS: Not established. Avoid contact with the material.
Manufacture recommends 100 ppm.

The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

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Section III - HEALTH HAZARDS

- ROUTES OF ENTRY: Inhalation of mists or vapors, eye and skin contact, ingestion, skin absorption.
- ACUTE EFFECTS: Eye and skin contact can cause irritation, itching, redness, tearing, burning, inflammation. Inhalation, ingestion and skin absorption can cause irritation, burns, itching, redness, diarrhea, kidney and liver damage.
- CHRONIC EFFECTS: Prolonged, repeated exposure can cause absorption of harmful amounts, chronic effects similar to those for ingestion.

NO The potential toxicity of the photoactive compounds in this product have not been thoroughly investigated.

EMERGENCY FIRST AID PROCEDURES:

- INGESTION: Contact physician at once.
- EYE CONTACT: Flush immediately with plenty of water for at least 15 minutes. Contact physician at once.
- SKIN CONTACT: Flush immediately with plenty of water for at least 15 minutes. Remove contaminated clothing. Contact physician. Wash clothing before reuse.
- INHALATION: Move into fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Contact a physician at once.

NOTE TO PHYSICIAN: There is no specific antidote. Treatment of overexposure should be directed at the control of symptoms and the clinical condition.

Section IV - PHYSICAL DATA

APPEARANCE AND ODOR: Red/amber viscous solution with slightly sweet odor.
% VOLATILE BY WEIGHT: 66%
EVAPORATION RATE: Slower than ether.
SPECIFIC GRAVITY: 1.02
VAPOR DENSITY(AIR=1): Heavier than air.
SOLUBILITY IN WATER: Not soluble
BOILING POINT: begins ca. 140° C.
pH: N.A.
VAPOR PRESSURE(MMHg):
 Propylene glycol mono-
 methyl ether acetate 2.4mm at 20° C

Section V - PHYSICAL HAZARDS

FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: 105-115° F
METHOD USED: PMCC
LOWER EXPLOSION LIMIT: Unknown
EXTINGUISHING MEDIA: Alcohol foam, carbon dioxide, dry chemical.
SPECIAL FIRE FIGHTING PROCEDURES: Use normal procedures for flammable liquid fires. Containers near fire may be cooled with water.
UNUSUAL FIRE AND EXPLOSION HAZARDS: Pressure may build up in closed containers. This is accelerated by heat with possible liberation of combustible vapors.

REACTIVITY DATA

STABILITY: Stable
CONDITIONS TO AVOID: Heat, sparks, flame
INCOMPATIBILITY: Oxidants
DECOMPOSITION PRODUCTS: Details unknown. May emit toxic gases if burned.
HAZARDOUS POLYMERIZATION: Will not occur.

Section VI - SPILL, LEAK AND DISPOSAL PROCEDURES

ACTION TO TAKE FOR SPILL:

Eliminate sources of ignition, provide adequate ventilation and suitable protective clothing. Collect with inert absorbent material and place in a suitable container for disposal.

Dispose of contaminated product and materials used in cleaning up spills and leaks in a manner approved for this material.

DISPOSAL:

Due to the nature of this product, disposal of it, or residues therefrom should be made in compliance with federal, state and local environmental laws.

Contact your Shibley Technical Representative for more information. It is your responsibility to verify that any recommended procedures comply with federal, state and local regulations for wastewater discharge.

Section VII - PRECAUTIONS FOR SAFE USE AND HANDLING

RESPIRATORY PROTECTION: The specific respirator selected must be based on the airborne concentration found in the workplace and must not exceed the working limits of the respirator. The respirator must be approved by the National Institute for Occupational Safety and Health for the substance of concern.

EYE PROTECTION: Chemical goggles.

PROTECTIVE CLOTHING: Chemical resistant gloves and suitable protective clothing to prevent skin contact.

WORK PRACTICES: Avoid skin contact. Practice good personal hygiene to prevent accidental exposure.

VENTILATION: Provide good general (mechanical) room ventilation. Special local exhaust ventilation is recommended at points where vapors can be released into the workplace air.

Section VIII - SPECIAL PRECAUTIONS / ADDITIONAL INFORMATION

Proprietary photoresist film contains approximately 2-4% of 2,3,4-trihydrobenzophenone (THBP), which may sublime during soft-bake or hard-bake processing.

HEALTH HAZARDS

EXPOSURE LIMITS: No established standard. Avoid skin contact.

ROUTES OF ENTRY: Inhalation, skin contact.

ACUTE EFFECTS: THBP has low acute toxicity (LD50 > 5g/kg). Contact with eyes, skin or mucous membranes may cause irritation.

CHRONIC EFFECTS: Repeated skin contact with THBP may cause irritation and dermatitis.

WORK PRACTICES: To prevent accumulation of THBP on equipment surfaces and ventilation ducts, preventative maintenance program including regular cleaning should be implemented. Wipe surfaces using an appropriate cleaning solvent when possible. Provide adequate general or local exhaust ventilation during the cleaning process. In situations where this is not possible or where solvent or dust concentrations become excessive, use NIOSH/MSHA approved air purifying respirator with an organic vapor/toxic particulate cartridge. When cleaning residual THBP, wear protective gloves and adequate protective clothing to prevent skin contact. Practice good personal hygiene to prevent accidental exposure. Clean all protective clothing and equipment thoroughly after each use.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: CAUTION! Combustible liquid. Store in closed original container in a cool, dry area at 50-70° F. Keep away from light, oxidants, heat and sources of ignition. Avoid storing longer than one year.

Section IX - TRANSPORTATION

NOT PROPER SHIPPING NAME: Combustible Liquid, N.O.S.

NOT HAZARD CLASSIFICATION: Combustible Liquid

NOT HAZARD IDENTIFICATION NUMBER: NA1993

Section X - REGULATORY INFORMATION

TSCA STATUS:

The products listed and their components have been manufactured in accordance with the inventory listing and premanufacture notice requirements of the Toxic Substance Control Act.

MA RIGHT TO KNOW LAW:

All components have been checked for inclusion on the Massachusetts Substance List.

CALIFORNIA Proposition 65:

This product does not contain materials which the State of California has found to cause cancer, birth defects or other reproductive harm.

HAZARD CATEGORIES UNDER CRITERIA OF
OF TITLE III RULES (40 CFR 370): Immediated, Delayed, Fire Hazard

THIS PRODUCT CONTAINS THE FOLLOWING TOXIC CHEMICALS SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 313 OF THE EMERGENCY PLANNING AND COMMUNITY RIGHT-TO-KNOW ACT OF 1986 AND OF 40 CFR 372:

CAS #	Chemical Name	Percent by Weight
N.A.	N.A.	N.A.

Section XI - NOTICE

N.A. denotes no applicable information was found

THE DATA CONTAINED HEREIN IS BASED ON INFORMATION THAT SHIPLEY COMPANY BELIEVES TO BE RELIABLE, BUT NO EXPRESSED OR IMPLIED WARRANTY IS MADE WITH REGARD TO THE ACCURACY OF SUCH DATA OR ITS SUITABILITY FOR A GIVEN SITUATION. SUCH DATA RELATES ONLY TO THE SPECIFIC PRODUCT DESCRIBED AND NOT TO SUCH PRODUCTS IN COMBINATION WITH ANY OTHER PRODUCT AND NO AGENT OF SHIPLEY COMPANY IS AUTHORIZED TO VARY ANY OF SUCH DATA. SHIPLEY COMPANY AND ITS

Section XI - NOTICE

AGENTS DISCLAIM ALL LIABILITY FOR ANY ACTION TAKEN OR FOREGONE ON RELIANCE UPON SUCH DATA.

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