

41000 2.00 US Current 18.04.1997

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Code 41000

Trade Name MICROPOSIT SJR 5740 PHOTO RESIST

Manufacturer/Supplier Shipley Company Address 455 Forest St.

Marlborough, Massachusetts 01752

Phone Number (508) 481-7950

 Emergency Phone Number
 (508) 481-7950

 Chemtrec #
 (800) 424-9300

 MSDS first issued
 4 October 1996

MSDS data revised 18 April 1997

Prepared By: Tammy Blakeslee, C.I.H.

Local Sales Company Shipley Company, 455 Forest Street, Marlboro, MA 01752

(508-481-7950)

2. COMPOSITION/INFORMATION ON THE INGREDIENTS

Components in Product
Component Name
CAS# / Codes Concentration
Propylene glycol monomethyl ether 108-65-6 57.00 - 58.00

2. Organic Sitoxane 67762-85-0 0.01 - 1.00 3. Diazo Photoactive Compound 1.00 - 10.00

4. Cresol Novolak Resin 30.00 - 40.00 5. cresol 1319-77-3 0.30 - 0.40 6. Dye Compound 0.01 - 1.00

3. HAZARD IDENTIFICATION

Main Hazards - Irritant - Combustible - Nervous System - Skin - Eye - Kidney

- Liver

Routes of Entry Inhalation, Ingestion, eye and skin contact, absorption.

Carcinogenic Status Not considered carcinogenic by NTP, IARC and OSHA

Target Organs - Nervous System - Skin - Eye - Liver - Kldney

Health Effects - Eyes Liquid or vapor may cause pain, transient irritation and

superficial comeal effects.

Health Effects - Skin Material may cause slight irritation on prolonged or repeated

contact. Repeated and/or prolonged contact may lead to: -

drowsiness - liver damage - kidney damage

Health Effects - Ingestion A large dose may have the following effects:

- drowsiness - liver damage - kidney damage

Health Effects - Inhalation Exposure to vapor at high concentrations may have the

following effects:

- imitation of nose, throat and respiratory tract - liver damage -

MEDS US

Page 1 of 6

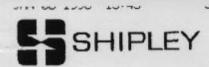




41000 2.00 US Current 18.04.1997

3.	HAZARD IDENTIFICATION (continued)			
		kidney damage		
4.	FIRST AID MEASURES			
	First Aid - Eyes	Immediately flush the eye with plenty of water for at least 15 minutes, holding the eye open. Obtain medical attention if soreness or redness persists.		
	First Ald - Skin	Wash skin with water. Obtain medical attention if blistering occurs or redness persists.		
	First Aid - Ingestion	Wash out mouth with water. Obtain medical attention.		
	First Aid - Inhalation	Remove from exposure. If there is difficulty in breathing, give oxygen. Seek medical attention if symptoms persist.		
	Advice to Physicians	Treat symptomatically.		
5.	FIRE FIGHTING MEASURES			
	Extinguishing Media	Use water spray, foam, dry chemical or carbon dioxide. Keep containers and surroundings cool with water spray.		
	Special Fire-Fighting Procedures	This product may give rise to hazardous vapors in a fire. Vapors can travel a considerable distance to a source of ignition and result in flashback.		
	Unusual Fire & Explosion Hazards	Pressure may build up in closed containers with possible liberation of combustible vapors.		
	Protective Equipment for Fire- Fighting	Wear full protective clothing and self-contained breathing apparatus.		
6.	ACCIDENTAL RELEASE MEASURES			
	Spill Procedures	Contain and absorb using earth, sand or other inert material Transfer into suitable containers for recovery or disposal. Finally flush area with plenty of water.		
	Personal Precautions	Wear appropriate protective clothing. Wear respiratory protection. Eliminate all sources of ignition.		
	Environmental Precautions	Prevent the material from entering drains or water courses.		
7.	HANDLING AND STORAGE			
	Handling	Use local exhaust ventilation. Avoid contact with eyes, skin and clothing. Keep container tightly closed when not in use.		





41000 2.00 US Current 18.04.1997

HANDLING AND STORAGE (continued) 7.

Storage

Store in original containers. Store away from sources of heat

or ignition. Storage area should be:

- cool - dry - well ventilated - out of direct sunlight

EXPOSURE CONTROLS/PERSONAL PROTECTION 8.

Occupational Exposure Standards

Propylene glycol monomethyl

ether acetate

An exposure limit of 30ppm 8h TWA is recommended. An exposure limit of 90ppm 10 min TWA is recommended.

2. cresol

ACGIH: TLV 5ppm (22mg/m3) 8h TWA. OSHA: PEL 5ppm (22mg/m3) 8h TWA. UK EH40: OES 5ppm (22mg/m3) 8h

TWA. Can be absorbed through skin.

Engineering Control Measures

Engineering methods to prevent or control exposure are preferred. Methods include process or personnel enclosure, mechanical ventilation (local exhaust), and control of process

Respiratory Protection

Respiratory protection if there is a risk of exposure to high vapor concentrations. 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.

Hand Protection

Butyl rubber gloves.

Eye Protection

Chemical goggles.

Body Protection

Normal work wear.

PHYSICAL AND CHEMICAL PROPERTIES 9.

Physical State

Viscous liquid

Color

Red Sweet

Odor

VOC (a/I)

594.37

Specific Gravity

1.02 Neutral

145.8/295

Boiling Range/Point (°C/F)

43-46 / 110-114

Flash Point (PMCC) (°C/F)

Lower limit 1.5 at 20 °C. Upper limit 7.0 at 20 C...

Explosion Limits (%) Solubility in Water

Insoluble.

20 °C.

Vapor Density (Air = 1)

Heavier than air.

Evaporation Rate

Slower than ether

Vapor Pressure

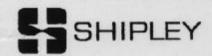
Propylene Glycol Monomethyl Ether Acetate: 3.7 mmHg at

STABILITY AND REACTIVITY 10.

MSDS US

Page 3 of 6





41000 2.00 US Current 18.04.1997

10.	STABILITY	AND REACTIVITY	(continued)
-----	-----------	----------------	-------------

Stability

Stable under normal conditions.

Conditions to Avoid

High temperatures - Static discharge

Incompatibilities

Oxidizing agents

Hazardous Polymerization

Will not occur.

Hazardous Decomposition

Products

Combustion will generate:

- carbon monoxide - Carbon Dioxide - phenols - toxic fluorine compounds - aldehydes - oxides of nitrogen - acrid smoke

and irritating fumes

TOXICOLOGICAL INFORMATION 11.

Acute Data

Propylene Glycol Monomethyl Ether Acetate: Oral LD50 (rat)

8532mg/kg. Dermal LD50 (rabbit) 5000mg/kg.

Chronic/Subchronic Data

No adverse effects are expected.

Genotoxicity

It was not mutagenic when tested in bacterial or mammalian

systems.

Reproductive/Developmental

Toxicity

Developmental effects were seen in laboratory animals only at

dose levels that were maternally toxic.

Additional Data

None known.

12. ECOLOGICAL INFORMATION

Mobility

Propylene Glycol Monomethyl Ether Acetate: Koc is 0 - 50.

Persistence/Degradability

The product is partially or slowly biodegradable. BOD20

greater than 40%

Bio-accumulation

No data.

Ecotoxicity

The product is rated as practically non-toxic to aquatic species. Tests on the following species gave a LC50 of

161mg/litre: - fathead minnows

Tests on the following species gave a LC50 of 408mg/litre: -

daphnia

13. DISPOSAL CONSIDERATIONS

Product Disposal

Incineration is the recommended method of disposal. Dispose

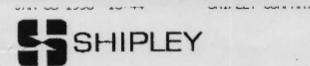
of in accordance with all applicable local and national

regulations.

MSDS US

Page 4 of 6





41000 2.00 US Current 18.04.1997

DISPOSAL CONSIDERATIONS (continued) 13.

Container Disposal

Labels should not be removed from containers until they have been cleaned. Empty containers may contain hazardous residues. Dispose of containers with care.

TRANSPORT INFORMATION 14.

DOT Ground:

Not Regulated per 49 CFR 173.150(f)(2)

UN Proper Shipping Name

Flammable liquid, n.o.s. (3) Flammable Liquid

UN Class

UN1993

UN Number

UN Packaging Group N.O.S. 1:

Propylene Glycol Monomethyl Ether Acetate

N.O.S. 2:

Subsidiary Risks

None.

ADR/RID Substance Identification

CLASS 3 - 31(c)

Number RQ

Cresol (100#)

Marine Pollutant

No.

REGULATORY INFORMATION 15.

TSCA Listed

Yes

TSCA Exemptions

D.2.B B.3

WHMIS Classification MA Right To Know Law

All components have been checked for inclusion on the Massachusetts Substance List (MSL). Those components present at the de minimus concentration have been identified

in the hazardous ingredients section of the MSDS.

California Proposition 65

This product contains the following chemicals that have been found by the State of California to cause cancer, birth defects

or other reproductive harm: - Toluene

SARA TITLE III-Section 311/312 Categorization (40 CFR 370)

Immediate, delayed, flammability hazard

SARA TITLE III-Section 313 (40

This product does not contain a chemical which is listed in

CFR 372)

Section 313 at or above de minimis concentrations.

OTHER INFORMATION 16.

NFPA Rating-FIRE NFPA Rating- HEALTH NFPA Rating- REACTIVITY 2 2

NFPA Rating-SPECIAL

0 None.

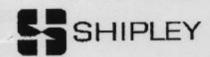
Revisions Highlighted

Data not available.

MSDS_US

Page 5 of 6





41000 2.00 US Current 18.04.1997

16. OTHER INFORMATION (continued)

Abbreviations

Chemical Abstract Services Number

ACGIH: American Conference of Governmental Industrial

Hygienists

CAS#:

OSHA: Occupational Safety and Health Administration

TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
STEL: Short Term Exposure Limit
NTP: National Toxicology Program

IARC: International Agency for Research on Cancer

R: Risk S: Safety

LD50: Lethal Dose 50%

LC50: Lethal Concentration 50% BOD: Biological Oxygen Demand

Koc: Soil Organic Carbon Partition Coefficient.

TLm: Median Tolerance Limit

Disclaimer

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 agents disclaim all liability for any action taken or foregone on reliance upon such data.