

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
	Chemtec #	(800) 424-9300
	MSDS first issued	4 October 1996
	MSDS data revised	16 July 1997
	Prepared By:	Gregory S. Dripps
	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 acetate	108-65-6	55.00 - 60.00		
Diazo Photoactive Compound		1.00 - 10.00		
Cresol Novolak Resin		30.00 - 40.00		
cresol	1319-77-3	0.30 - 0.40		
Dye Compound		0.01 - 1.00		
Organic Siloxane Surfactant		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 - Kidney
	Health Effects - Eyes	Liquid or vapor may cause pain, transient irritation and superficial corneal 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: - irritation of nose, throat and respiratory tract - liver damage - 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 Aid - 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.
	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
Other		
None known.		
8.		EXPOSURE CONTROLS/PERSONAL PROTECTION
Occupational Exposure Standards		
	Propylene glycol monomethyl ether acetate	Manufacturer recommends 30ppm 8h TWA and 90ppm 15 min STEL.
	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 conditions.

	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.
9.	PHYSICAL AND CHEMICAL PROPERTIES	
	Physical State	Viscous liquid
	Color	Red
	Odor	Sweet
	VOC (g/l)	594.37
	Specific Gravity	1.02
	pH	Neutral
	Boiling Range/Point (°C/F)	145.8/295
	Flash Point (PMCC) (°C/F)	43-46 / 110-114
	Explosion Limits (%)	Lower limit 1.5 at 20 °C. Upper limit 7.0 at 20 C..
	Solubility in Water	Insoluble.
	Vapor Density (Air = 1)	Heavier than air.
	Evaporation Rate	Slower than ether
	Vapor Pressure	Propylene Glycol Monomethyl Ether Acetate: 3.7 mmHg at 20 °C.
10.	STABILITY AND REACTIVITY	
	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
11.	TOXICOLOGICAL INFORMATION	
	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.
	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.
14.	TRANSPORT INFORMATION	
	DOT Ground:	Not Regulated per 49 CFR 173.150(f)(2)
	UN Proper Shipping Name	Flammable liquid, n.o.s.
	UN Class	(3) Flammable Liquid
	UN Number	UN1993
	UN Packaging Group	III
	N.O.S. 1:	Propylene Glycol Monomethyl Ether Acetate
	N.O.S. 2:	
	Subsidiary Risks	None.
	ADR/RID Substance Identification Number	CLASS 3 - 31(c)
	CERCLA RQ	Cresol (100#)
	Marine Pollutant	No.
15.	REGULATORY INFORMATION	
	TSCA Listed	Yes
	TSCA Exemptions	
	WHMIS Classification	D.2.B.B.3
	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 CFR 372)	This product does not contain a chemical which is listed in Section 313 at or above de minimis concentrations.
16.	OTHER INFORMATION	
	NFPA Rating- FIRE	2
	NFPA Rating- HEALTH	2
	NFPA Rating- REACTIVITY	0
	NFPA Rating- SPECIAL	None.
	Revisions Highlighted	Composition/Information on the Components Occupational Exposure Standards

	Abbreviations	<p>CAS#: Chemical Abstract Services Number</p> <p>ACGIH: American Conference of Governmental Industrial Hygienists</p> <p>OSHA: Occupational Safety and Health Administration</p> <p>TLV: Threshold Limit Value</p> <p>PEL: Permissible Exposure Limit</p> <p>STEL: Short Term Exposure Limit</p> <p>NTP: National Toxicology Program</p> <p>IARC: International Agency for Research on Cancer</p> <p>R: Risk</p> <p>S: Safety</p> <p>LD50: Lethal Dose 50%</p> <p>LC50: Lethal Concentration 50%</p> <p>BOD: Biological Oxygen Demand</p> <p>Koc: Soil Organic Carbon Partition Coefficient.</p> <p>TLm: Median Tolerance Limit</p>
Disclaimer		
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MATERIAL SAFETY DATA SHEET

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41000 3.00 US US 16.07.1997 MSDS_US