

MSDS# TM-OP

FUJIFILM SERICOL USA, INC.  
 20 WEST 14TH AVENUE  
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 (816) 474-0650

\*\*\*HMIS RATINGS\*\*\*  
 HEALTH-----2  
 FLAMMABILITY-----2  
 REACTIVITY-----0

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 \* MATERIAL SAFETY DATA SHEET \*  
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For screen printing inks as required under 29 CFR 1910.1200(g).

EMERGENCY PHONE NUMBER PREPARER: CRAIG POGGENPOHL DATE OF PREPARATION  
 (816) 587-8178 EHS MANAGER REVISED 12/26/07/CP

REVISIONS: SECTION XIII.

SECTION I--PRODUCT IDENTIFICATION

PRODUCT CODE : TM-OP  
 LABEL IDENTITY: TECHMARK OVERPRINT CLEAR  
 PRODUCT CLASS : SOLVENT EVAPORATIVE SCREEN INK

SECTION II--HAZARDOUS INGREDIENTS

COMMON NAME (CAS REGISTRY #)	PERCENT BY WEIGHT	RECOMMENDED EXPOSURE LIMITS (PPM) <sup>1</sup>		VAPOR PRESSURE (mm Hg @ 20 C) <sup>1</sup>
		ACGIH TLV-TWA	OSHA PEL	
CYCLOHEXANONE(108-94-1)!	1-3	20 <sup>2</sup>	50	3.4
ESTER (763-69-9)!	60-70	NE	NE	0.7

NA - NOT APPLICABLE NE - NOT ESTABLISHED UKN - UNKNOWN

<sup>1</sup>UNLESS NOTED OTHERWISE, THE UNITS ARE PPM AND mm Hg @ 20 C,  
 RESPECTIVELY, FOR EXPOSURE LIMITS AND VAPOR PRESSURES.

<sup>2</sup>SKIN ABSORPTION MAY CONTRIBUTE TO THE OVERALL ABSORPTION OF THIS MATERIAL.  
 APPROPRIATE MEASURES SHOULD BE TAKEN TO PREVENT ABSORPTION SO THAT THE TLV  
 AND/OR PEL ARE NOT INVALIDATED.

SECTION III -- PHYSICAL AND CHEMICAL CHARACTERISTICS

BOILING RANGE: 150-170 C.  
 DENSITY: 8.32 LB./GAL.  
 VOC CONTENT OF MATERIAL: 65.5% BY WEIGHT OR 654 GRAMS PER LITER.  
 VOC CONTENT OF COATING LESS WATER AND LESS EXEMPT SOLVENTS: 654 G/L.  
 VAPOR DENSITY: HEAVIER THAN AIR.  
 EVAPORATION RATE: SLOWER THAN DIETHYL ETHER.  
 APPEARANCE AND ODOR: CLEAR LIQUID, STRONG, ESTER-LIKE ODOR.

SECTION IV -- PHYSICAL HAZARD DATA

FLAMMABILITY CLASSIFICATIONS: OSHA: CLASS II DOT: COMBUSTIBLE LIQUID  
 CLOSED CUP FLASH POINT: >136 F. EXPLOSIVE LIMITS: UNKNOWN

EXTINGUISHING MEDIA: "CLASS B" FIRE EXTINGUISHERS USED IN ACCORDANCE  
 WITH MANUFACTURERS INSTRUCTIONS.

"ALCOHOL" FOAM CO2 DRY CHEMICAL WATER FOG

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UNUSUAL FIRE OR EXPLOSION HAZARDS: KEEP CONTAINERS TIGHTLY CLOSED. ISOLATE FROM HEAT, SPARKS, ELECTRICAL EQUIPMENT AND OPEN FLAMES. CLOSED CONTAINERS MAY RUPTURE OR EXPLODE WHEN EXPOSED TO EXTREME HEAT. APPLICATION TO HOT SURFACES REQUIRES SPECIAL PRECAUTIONS. DURING EMERGENCY CONDITIONS, OVEREXPOSURE TO DECOMPOSITION PRODUCTS MAY CONSTITUTE A HEALTH HAZARD. SYMPTOMS MAY NOT BE IMMEDIATELY APPARENT. OBTAIN MEDICAL ATTENTION.

SPECIAL FIREFIGHTING PROCEDURES: FULL PROTECTIVE EQUIPMENT IS RECOMMENDED TO PROTECT FIRE FIGHTERS FROM ANY HAZARDOUS DECOMPOSITION PRODUCTS.

WATER MAY BE UNSUITABLE FOR USE ON BURNING LIQUIDS. IF WATER MUST BE USED, FOG NOZZLES ARE HIGHLY PREFERABLE. WATER MAY BE USED TO COOL CLOSED CONTAINERS TO PREVENT PRESSURE BUILD-UP AND POSSIBLE AUTO-IGNITION, EXPLOSION, OR RUPTURE WHEN EXPOSED TO EXTREME HEAT.

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SECTION V -- EMERGENCY AND FIRST-AID PROCEDURES  
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PRIMARY ROUTES OF ENTRY ARE DERMAL AND INHALATION.

FOR SWALLOWING: DRINK TWO GLASSES OF WATER TO DILUTE. DO NOT INDUCE VOMITING. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. CONSULT PHYSICIAN OR POISON CONTROL CENTER IMMEDIATELY. TREAT SYMPTOMATICALLY. BE PREPARED TO PROVIDE THE ATTENDING PHYSICIAN WITH A COPY OF THIS DOCUMENT.

FOR SKIN CONTACT: REMOVE CONTAMINATED CLOTHING. WASH THOROUGHLY WITH MILD SOAP AND WARM WATER. CONSULT A PHYSICIAN IF THERE IS ANY PERSISTING IRRITATION.

FOR INHALATION: REMOVE VICTIM TO A WELL VENTILATED AREA. GIVE OXYGEN OR ARTIFICIAL RESPIRATION AS REQUIRED. TREAT SYMPTOMATICALLY AND CONSULT PHYSICIAN.

FOR EYE CONTACT: FLUSH WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST FIFTEEN MINUTES. CONSULT PHYSICIAN FOR MEDICAL TREATMENT, IF NECESSARY.

SPECIAL NOTES TO ATTENDING PHYSICIAN: THERE IS NO SPECIFIC ANTIDOTE. TREATMENT OF OVEREXPOSURE SHOULD BE DIRECTED AT CONTROL OF THE SYMPTOMS AND THE CLINICAL CONDITION.

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SECTION VI -- SIGNS AND SYMPTOMS OF OVEREXPOSURE  
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ACUTE EFFECTS:

SWALLOWING: MAY CAUSE HEADACHES, NAUSEA, VOMITING, DIZZINESS, IRRITATION OF THE DIGESTIVE TRACT. SIGNS OF NERVOUS SYSTEM DEPRESSION (E.G., DROWSINESS, DIZZINESS, LOSS OF COORDINATION, AND FATIGUE). POSSIBLE KIDNEY DAMAGE MAY RESULT FROM INGESTION OF LARGE QUANTITIES OF MATERIAL. ASPIRATION HAZARD - THIS MATERIAL CAN ENTER LUNGS DURING SWALLOWING OR VOMITING AND CAUSE LUNG INFLAMMATION AND DAMAGE.

SKIN ABSORPTION: PROLONGED OR WIDESPREAD CONTACT WITH SKIN MAY LEAD TO ABSORPTION OF HARMFUL AMOUNTS OF MATERIAL WITH ACCOMPANYING SIGNS AND SYMPTOMS OF TOXICITY AS DESCRIBED FOR SWALLOWING.

INHALATION: VAPORS ARE IRRITATING TO EYES, NOSE AND RESPIRATORY TRACT. OVEREXPOSURE MAY RESULT IN HEADACHE, NAUSEA, VOMITING, SIGNS OF NERVOUS SYSTEM DEPRESSION. VAPORS HAVE AN OBJECTIONABLE ODOR.

SKIN CONTACT: MAY CAUSE SLIGHT IRRITATION WITH PROLONGED CONTACT. PROLONGED AND REPEATED OVEREXPOSURE MAY RESULT IN REDNESS, BURNING, DRYING AND CRACKING.

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EYE CONTACT: CAUSES IRRITATION, BURNING, TEARING, REDNESS AND SWELLING.

MEDICAL CONDITIONS KNOWN TO BE AGGRAVATED BY OVEREXPOSURE: EXISTING DERMATITIS.

CHRONIC EFFECTS: IN ANIMAL STUDIES, REPEATED OVEREXPOSURE TO CYCLOHEXANONE HAS CAUSED LIVER AND KIDNEY INJURY.

ADDITIONAL KNOWN HEALTH HAZARDS:  
REPORTS HAVE ASSOCIATED PROLONGED AND REPEATED OCCUPATIONAL OVEREXPOSURE TO SOLVENTS WITH PERMANENT BRAIN AND NERVOUS SYSTEM DAMAGE. INTENTIONAL MISUSE BY DELIBERATELY CONCENTRATING AND INHALING THE CONTENTS MAY BE HARMFUL OR FATAL.

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SECTION VII -- REACTIVITY DATA  
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THIS MIXTURE IS STABLE AND HAZARDOUS POLYMERIZATION WILL NOT OCCUR.

INCOMPATIBILITY (MATERIALS TO AVOID): STRONG ACIDS, STRONG BASES, OXIDIZING AGENTS.

HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE, CARBON DIOXIDE, MIXED OXIDES OF NITROGEN, METHYL METHACRYLATE AND N-BUTYL METHACRYLATE

CONDITIONS TO AVOID: EXTREME TEMPERATURES, SPARKS, OPEN FLAMES OR ANY OTHER IGNITION SOURCES.

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SECTION VIII -- SPILL OR LEAK PROCEDURES  
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STEPS TO BE TAKEN IF MATERIAL IS SPILLED OR RELEASED: USING NON-SPARKING TOOLS, PLACE LEAKING CONTAINERS IN A WELL VENTILATED AREA. AVOID BREATHING VAPORS.  
ELIMINATE ALL SOURCES OF HEAT, SPARKS, OR IGNITION.  
NOTIFY PROPER AUTHORITIES IF PUBLIC WATERS OR SEWERS ARE CONTAMINATED.

WASTE DISPOSAL METHOD: AS A HAZARDOUS WASTE, THIS MATERIAL MUST BE DISPOSED OF IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL ORDINANCES. INQUIRE OF YOUR LOCAL ENVIRONMENTAL AGENCIES FOR THE EXACT LEGAL REQUIREMENTS IN YOUR AREA.  
REFER TO SECTIONS IV, V, VI, VII AND IX OF THIS DOCUMENT BEFORE ATTEMPTING ANY CLEANUP.

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SECTION IX -- SAFE HANDLING AND USE INFORMATION  
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RESPIRATORY PROTECTION: WHERE CONCENTRATIONS IN AIR MAY EXCEED THE LIMITS GIVEN IN SECTION II AND ENGINEERING, WORK PRACTICE OR OTHER MEANS OF EXPOSURE REDUCTION ARE NOT ADEQUATE, NIOSH/MSHA APPROVED RESPIRATORS MAY BE NECESSARY TO PREVENT OVEREXPOSURE.  
VENTILATION REQUIREMENTS: LOCAL EXHAUST RECOMMENDED WHEN APPROPRIATE TO CONTROL EXPOSURE TO MIST OR AEROSOLS. GENERAL EXHAUST IS NORMALLY ADEQUATE TO MINIMIZE EXPOSURE TO VAPORS.  
PROTECTIVE GLOVES: RUBBER OR NEOPRENE TO MINIMIZE SKIN CONTACT.  
EYE PROTECTION: SAFETY GOGGLES OR FULL FACE SHIELD.  
HYGIENIC SAFETY PRACTICES: WASH HANDS BEFORE EATING, USING TOBACCO PRODUCTS, OR USING THE WASHROOM. TOBACCO AND FOOD SHOULD BE CONSUMED IN DESIGNATED AREAS ONLY.  
ADDITIONAL SAFETY EQUIPMENT: IMPERMEABLE APRONS AND BOOTS. SAFETY SHOWER AND EYE BATH SHOULD BE MADE AVAILABLE.

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SECTION X -- SPECIAL PROCEDURES  
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TRANSPORTATION, STORAGE, AND HANDLING: AVOID CONDITIONS LISTED IN SECTION VII. AVOID PROLONGED STORAGE AT TEMPERATURES IN EXCESS OF 100 F.

OTHER PRECAUTIONS: NONE.

SECTION XI -- DISCLAIMER

SERICOL, INC. MAKES NO WARRANTY, EXPRESSED OR IMPLIED, AS TO THE ACCURACY OR RELIABILITY OF INFORMATION CONTAINED HEREIN, EXCEPT THAT SUCH INFORMATION IS, TO THE BEST OF SERICOL'S KNOWLEDGE AND BELIEF, ACCURATE AS OF THE DATE INDICATED ON THIS DOCUMENT. FINAL DETERMINATION OF SUITABILITY OF ANY MATERIAL IS THE SOLE RESPONSIBILITY OF THE USER. ALL MATERIALS MAY PRESENT UNKNOWN HEALTH HAZARDS AND SHOULD BE USED WITH CAUTION. ALTHOUGH CERTAIN HAZARDS ARE DESCRIBED HEREIN, WE CANNOT GUARANTEE THAT THESE ARE THE ONLY HAZARDS THAT EXIST.

SECTION XII -- CUSTOMER'S OBLIGATIONS

SERICOL INC. URGES THE CUSTOMER RECEIVING THIS MATERIAL SAFETY DATA SHEET TO STUDY IT CAREFULLY TO BECOME AWARE OF HAZARDS, IF ANY, OF THE PRODUCTS INVOLVED. IN THE INTEREST OF SAFETY, YOU SHOULD, (1) NOTIFY YOUR EMPLOYEES, AGENTS, AND CONTRACTORS OF THE INFORMATION ON THIS SHEET, (2) FURNISH A COPY TO EACH OF YOUR CUSTOMERS FOR THIS PRODUCT, AND (3) REQUEST YOUR CUSTOMERS TO INFORM THEIR EMPLOYEES, CUSTOMERS, AND AGENTS, AS WELL.

SECTION XIII -- REGULATORY INFORMATION

TOXIC SUBSTANCES CONTROL ACT (TSCA) STATUS: THE INGREDIENTS OF THIS PRODUCT ARE LISTED ON THE TSCA INVENTORY.

SARA TITLE III SECTION 313 INFORMATION: THIS PRODUCT DOES NOT CONTAIN TOXIC CHEMICALS SUBJECT TO THE ANNUAL REPORTING REQUIREMENTS OF SECTION 313 OF TITLE III OF THE SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 AND 40 CFR PART 372.

STATE OF CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT OF 1986 (PROPOSITION 65): THIS PRODUCT MAY CONTAIN TRACE QUANTITIES OF FORMALDEHYDE, BENZENE AND ETHYL ACRYLATE, CHEMICALS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER. MAY CONTAIN TRACE QUANTITIES OF TOLUENE AND BENZENE, CHEMICALS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE REPRODUCTIVE TOXICITY.