

MSDS# PS

FUJIFILM SERICOL USA, INC.
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 NORTH KANSAS CITY, MISSOURI 64116
 (816) 474-0650

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

 * MATERIAL SAFETY DATA SHEET *

For screen printing inks as required under 29 CFR 1910.1200(g).

UNDER OSHA'S HAZARD COMMUNICATION STANDARD, WHERE COMPLEX MIXTURES HAVE SIMILAR HAZARDS AND CONTENTS, THE MANUFACTURER MAY PREPARE ONE MATERIAL SAFETY DATA SHEET TO APPLY TO ALL OF THESE SIMILAR MIXTURES. THIS DOCUMENT APPLIES TO ALL COLORS AND SPECIALS IN THIS INK LINE.

EMERGENCY PHONE NUMBER PREPARER: CRAIG POGGENPOHL DATE OF PREPARATION
 (816) 587-8178 REGULATORY COMPLIANCE MGR. REVISED 11/18/05/CP

REVISIONS: SECTION I.

SECTION I--PRODUCT IDENTIFICATION

PRODUCT CODE : PS-064 PS-114 PS-123 PS-127 PS-131 PS-141
 PS-155 PS-160 PS-164 PS-165 PS-170 PS-175
 PS-180 PS-185 PS-190 PS-200 PS-205 PS-210
 PS-215 PS-230 PS-231 PS-233 PS-240 PS-250
 PS-255 PS-260 PS-265 PS-270 PS-280 PS-290
 PS-295 PS-300 PS-311 PS-SB PS-TW PS-MX
 PS-HTY PS-HTR PS-HTB PS-HTK PS-HTX
 LABEL IDENTITY: POLY SET LL SERIES
 PRODUCT CLASS : THERMOSETTING SCREEN INK

SECTION II--HAZARDOUS INGREDIENTS

COMMON NAME (CAS REGISTRY #)	PERCENT BY WEIGHT	RECOMMENDED EXPOSURE LIMITS (PPM) ¹			VAPOR PRESSURE (mm Hg @ 20 C) ¹
		ACGIH	TLV-TWA	OSHA PEL	
GLYCOL ETHER (112-15-2)!	1-6	NE	NE	NE	< 1
AMINOPLAST RESIN (TRADE SECRET)!	10-20	NE	NE	NE	< 1
ESTER (763-69-9)!	5-10	50 ²	NE	NE	1.1
CARBON BLACK ⁴ 1333-86-4)!	2-6	3.5mg/m ³	3.5mg/m ³	3.5mg/m ³	NA
BARIUM SULFATE ³ (7727-43-7)	11	10 mg/m ³	10 mg/m ³ (TOTAL DUST)	5 mg/m ³ (RESPIRABLE FRACTION)	
CONTAINS LESS THAN 0.1% BY WEIGHT FORMALDEHYDE (50-00-0)		NE (CEIL 0.3)	0.75 (STEL 2.0)	0.75 (STEL 2.0)	1.3

NA - NOT APPLICABLE NE - NOT ESTABLISHED UKN - UNKNOWN

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

² RECOMMENDED BY MANUFACTURER.

³ INKS CONTAINING BARIUM SULFATE: PS-064 PS-180 PS-300.

⁴ INKS CONTAINING CARBON BLACK: PS-300 PS-SB PS-HTK.

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SECTION III -- PHYSICAL AND CHEMICAL CHARACTERISTICS

BOILING RANGE: 157-217 C.
DENSITY IS 9.0 TO 15.0 LBS/GAL.
VOC CONTENT OF MATERIAL: 8.5-27 % BY WEIGHT OR 135-305 GRAMS PER LITER.
VOC CONTENT OF COATING LESS WATER AND LESS EXEMPT SOLVENTS: 135-305 G/L.
VAPOR DENSITY: HEAVIER THAN AIR.
EVAPORATION RATE: SLOWER THAN DIETHYL ETHER.
APPEARANCE AND ODOR: VISCOUS LIQUID, VARIOUS COLORS, ESTER-LIKE ODOR.

SECTION IV -- PHYSICAL HAZARD DATA

FLAMMABILITY CLASSIFICATIONS: OSHA: CLASS IIIA DOT: COMBUSTIBLE LIQUID
CLOSED CUP FLASH POINT: 143 F. EXPLOSIVE LIMITS: UNKNOWN

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

"ALCOHOL" FOAM CO2 DRY CHEMICAL WATER FOG

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.

SECTION V -- EMERGENCY AND FIRST-AID PROCEDURES

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.

SECTION VI -- SIGNS AND SYMPTOMS OF OVER-EXPOSURE

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ACUTE EFFECTS:

SWALLOWING: CAN CAUSE GASTROINTESTINAL IRRITATION, NAUSEA, VOMITING, AND DIARRHEA. ASPIRATION OF MATERIAL INTO THE LUNGS CAN CAUSE CHEMICAL PNEUMONITIS WHICH CAN BE FATAL.

SKIN ABSORPTION: NO EVIDENCE OF HARMFUL EFFECTS FROM AVAILABLE INFORMATION.

INHALATION: EXCESSIVE INHALATION OF VAPORS CAN CAUSE NASAL AND RESPIRATORY IRRITATION, DIZZINESS, WEAKNESS, FATIGUE, NAUSEA, AND HEADACHE. HIGH CONCENTRATIONS MAY RESULT IN NARCOSIS. (CENTRAL NERVOUS SYSTEM DEPRESSION).

SKIN CONTACT: MAY CAUSE MODERATE IRRITATION WITH PROLONGED CONTACT. PROLONGED AND REPEATED OVEREXPOSURE MAY RESULT IN DEFATTING AND DERMATITIS.

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

MEDICAL CONDITIONS KNOWN TO BE AGGRAVATED BY OVEREXPOSURE: NONE KNOWN.

CHRONIC EFFECTS: CHRONIC EXPOSURE MAY CAUSE DAMAGE TO THE CENTRAL NERVOUS SYSTEM, RESPIRATORY SYSTEM, LUNGS, EYES, SKIN, GASTROINTESTINAL TRACT, LIVER, SPLEEN AND KIDNEYS.

AMINOPLAST RESIN MAY CONTAIN SMALL AMOUNTS OF FORMALDEHYDE. ADDITIONALLY, FORMALDEHYDE MAY BE RELEASED FROM THIS RESIN DURING HEATED CURING PROCESSES OR FOLLOWING EXPOSURE OF THE RESIN TO PROLONGED PERIODS OF HEAT. FORMALDEHYDE IS IRRITATING TO THE EYES, SKIN AND RESPIRATORY TRACT, AND MAY PRODUCE AN ALLERGIC RESPONSE (ALLERGIC CONTACT DERMATITIS AND, OCCASIONALLY, ASTHMA) IN SENSITIZED INDIVIDUALS. FORMALDEHYDE IS LISTED BY THE NATIONAL TOXICOLOGY PROGRAM (NTP) IN THEIR THIRD ANNUAL REPORT ON CARCINOGENS AND IS CLASSIFIED AS "PROBABLY CARCINOGENIC TO HUMANS" BY THE INTERNATIONAL AGENCY FOR RESEARCH ON CANCER (IARC MONOGRAPHS, VOL. 29). THE NTP AND IARC LISTINGS ARE BASED ON THEIR DETERMINATION THAT THERE IS SUFFICIENT EVIDENCE FOR THE CARCINOGENICITY OF FORMALDEHYDE IN EXPERIMENTAL ANIMALS OF THE BASIS OF STUDIES IN WHICH NASAL TUMORS OCCURRED IN RATS AND MICE FOLLOWING PROLONGED EXPOSURE TO FORMALDEHYDE.

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, STRONG OXIDIZING AGENTS.

HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE, CARBON DIOXIDE, NITROGENOUS COMPOUNDS, FORMALDEHYDE, AND METHANOL.

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 AN INDUSTRIAL 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. PROTECT AGAINST THE INHALATION OF DUST OR PARTICLES GENERATED BY SANDING, BLASTING, OR ABRADING OF THE DRIED COATING.

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SECTION XI -- DISCLAIMER
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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.

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SECTION XII -- CUSTOMER'S OBLIGATIONS
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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.

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SECTION XIII -- REGULATORY INFORMATION

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

THIS PRODUCT CONTAINS A TOXIC CHEMICAL OR 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.

CONTAINS: DIETHYLENE GLYCOL ETHYL ETHER ACETATE
CAS# 112-15-2, 1-6 % BY WEIGHT.

THIS NOTIFICATION MUST NOT BE DETACHED FROM THE MATERIAL SAFETY DATA SHEET (MSDS) AND ANY COPYING AND REDISTRIBUTION OF THE MSDS SHALL INCLUDE COPYING AND REDISTRIBUTION OF THE NOTICE ATTACHED TO COPIES OF THE MSDS SUBSEQUENTLY REDISTRIBUTED.

STATE OF CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT OF 1986 (PROPOSITION 65): THIS PRODUCT CONTAINS LESS THAN 0.1% FORMALDEHYDE, A CHEMICAL KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER.

POLYSET SCREEN PRINTING INKS

VOLATILE ORGANIC COMPOUND CONTENT (REV.04/07/04)

PRODUCT DESCRIPTION	! INK WPG ! (LB.) !	LB. VOC ! PER GAL !	GRAMS VOC ! PER LITER !	% VOC ! BY WT !
PS-064 YELLOW GS	12.15	1.63	195	13.4
PS-101 LL PRIMROSE	10.459	1.31	157	12.5
PS-111 LL LEMON	9.925	1.56	187	15.7
PS-114 ORANGE	9.48	1.44	173	15.2
PS-121 RED YS	13.33	1.43	171	10.7
PS-127 VIOLET	9.41	1.50	181	16.0
PS-131 LL BRILL ORANGE	9.545	1.29	155	13.5
PS-141 LL FIRE RED	9.558	1.34	161	14.0
PS-151 LL SCARLET	9.514	1.32	159	13.9
PS-155 RUBINE	9.399	1.38	165	14.7
PS-160 RHODAMINE	9.715	1.28	153	13.2
PS-164 RED BS	9.58	1.46	175	15.2
PS-165 MAGENTA	9.50	1.49	179	15.7
PS-170 PURPLE	9.910	1.25	150	12.6
PS-175 CMS PURPLE	9.492	1.35	162	14.2
PS-180 WARM RED	9.771	1.22	146	12.5
PS-185 YELLOW	9.487	1.38	166	14.6
PS-190 PROCESS BLUE	9.493	1.21	145	12.7
PS-200 PEACOCK	9.908	1.26	151	12.7
PS-205 REFLEX BLUE	9.382	1.25	150	13.3
PS-210 ULTRA BLUE	9.639	1.26	152	13.1
PS-215 CMS GREEN	9.679	1.28	153	13.2
PS-230 SMS BLUE GS	9.63	1.53	184	15.9
PS-231 LL DARK GREEN	9.56	1.37	164	14.3
PS-233 SMS BLUE RS	9.6	1.53	183	15.9
PS-240 TSP PRIM	9.45	1.20	144	12.9
PS-250 TSP MED YEL	9.294	1.12	133	11.9
PS-255 TSP GOLD	9.180	1.40	168	15.2
PS-260 STOP SIGN RED	9.279	1.42	170	15.3
PS-265 TSP DK RED	9.389	1.24	148	13.2
PS-270 TSP ORANGE	9.289	1.27	152	13.7
PS-280 TSP GREEN	9.403	1.12	134	11.9
PS-290 TSP BLUE	9.50	1.10	132	11.8
PS-295 TSP PURPLE	9.267	1.56	187	16.8
PS-300 BLACK	9.87	1.54	185	14.9

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PS-311 S.O. WHITE	14.21	1.35	162	9.2
PS-325 GREEN	9.80	1.42	170	9.8
PS-MX MIXING CLR	9.294	1.50	179	16.1
PS-SOP SATIN CLR	9.650	1.71	205	17.7
PS-SB SHADING BLK	9.331	1.12	135	12.0
PS-TW TINTING WHITE	10.42	1.11	133	10.9
PS-HTB HT BLUE	9.50	2.01	241	21.5
PS-HTK HT BLACK	9.53	2.01	241	21.4
PS-HTX HT BASE	9.41	2.28	273	24.4
PS HTR HT RED	9.52	2.23	268	23.7
PS-HTY HT YELLOW	9.59	2.54	305	26.9