MATERIAL SAFETY DATA SHEET

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

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HMIS RATINGS
HEALTH - - - - - - 2
FLAMMABILITY - - 1
REACTIVITY - - - - 1

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.

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SECTION I -- PRODUCT IDENTIFICATION

PRODUCT CODE: ADHESION PROMOTER
LABEL IDENTITY: MPX-3105
PRODUCT CLASS: UV CURABLE SCREEN PRINTING INK

SECTION II -- HAZARDOUS INGREDIENTS

COMMON NAME	CAS #	RECOMMENDED EXPOSURE LIMITS (PPM)* ACGIH TLV-TWA	OSHA PEL	VAPOR PRESSURE (mm Hg @ 20 C)*
ALCOHOL	(TS)	NE	NE	2.3 @ 103 F (39 C)
S10900				
AZIRIDINE	(TS)	NE	NE	<1
A79012				

NA - NOT APPLICABLE NE - NOT ESTABLISHED UKN - UNKNOWN TS - TRADE SECRET

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

SECTION III -- PHYSICAL AND CHEMICAL CHARACTERISTICS

BOILING RANGE: 352 F (178 C)
VAPOR DENSITY (AIR=1): HEAVIER THAN AIR.
DENSITY IS 8.780 LBS/GAL.
VOLATILE ORGANIC COMPOUNDS OF MATERIAL: 80% BY WEIGHT OR 843 GRAMS PER LITER.
VOLATILE ORGANIC COMPOUNDS OF COATING LESS WATER AND LESS EXEMPT SOLVENTS: 843 GRAMS
SOLUBILITY IN WATER: 100%
APPEARANCE AND ODOR: COLORLESS TO AMBER/YELLOW LIQUID. AMINE-LIKE ODOR.

SECTION IV -- PHYSICAL HAZARD DATA

FLAMMABILITY CLASSIFICATIONS: OSHA: CLASS IIIA DOT: NOT REGULATED.
FLASH POINT: (TCC AND SETAFLASH): 165 F (74C).
FLAMMABLE LIMITS IN AIR, % VOLUME: LEL LOWER – 1.5 UEL UPPER – 9.7
AUTO-IGNITION TEMPERATURE: 540 F (282 C).

EXTINGUISHING MEDIA: "CLASS B" FIRE EXTINGUISHERS USED PER INSTRUCTIONS

"ALCOHOL" FOAM CO2 DRY CHEMICAL WATER FOG

UNUSUAL FIRE AND EXPLOSION HAZARDS:
KEEP CONTAINERS TIGHTLY CLOSED. ISOLATE FROM HEAT, SPARKS, ELECTRICAL EQUIPMENT AND OPEN FLAMES. CLOSED CONTAINERS MAY RMPXTURE 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.

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.

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

ACUTE EFFECTS:

SWALLOWING:
MODERATELY TOXIC. MAY CAUSE IRRITATION OF THE MOUTH, THROAT, ESOPHAGUS, AND STOMACH. THERE MAY BE DISCOMFORT OR PAIN IN THE MOUTH, THROAT, CHEST AND ABDOMEN, WITH NAUSEA, VOMITING, DIARRHEA, DIFFICULTY SWALLOWING, WEAKNESS, THIRST, DIZZINESS, AND DROWSINESS. ASPIRATION INTO THE LUNGS MAY OCCUR DURING INGESTION OR VOMITING, RESULTING IN LUNG INJURY.

SKIN ABSORPTION:
NO SPECIFIC INFORMATION AVAILABLE. CONTAINS MATERIALS THAT MAY BE SLIGHTLY TOXIC.

INHALATION:
EXPOSURE TO VAPORS IS UNLIKELY DUE TO LOW VAPOR PRESSURE OF INGREDIENTS, BUT INHALATION OF MIST, AEROSOLS, OR VAPORS MAY RESULT IN IRRITATION OF RESPIRATORY TRACT COUGHING, SHORTNESS OF BREATH AND DIZZINESS.

SKIN CONTACT:
CONTAINS MATERIAL THAT MAY CAUSE SEVERE SKIN IRRITATION (REDDENING AND SWELLING) AND/OR SENSITIZATION. PROLONGED CONTACT MAY CAUSE BLISTER FORMATION (BURNS). SINCE IRRITATION MAY NOT OCCUR IMMEDIATELY, CONTACT CAN GO UNNOTICED.

EYE CONTACT:
CONTAINS MATERIALS THAT MAY CAUSE MODERATE IRRITATION, INCLUDING BURNING SENSATION TEARING, REDNESS OR SWELLING.

MEDICAL CONDITIONS KNOWN TO BE AGGRAVATED BY OVEREXPOSURE: LUNG CONDITIONS, SENSITIZATION, OR ALLERGIES, SKIN AND EYE CONDITIONS.

CHRONIC EFFECTS:
MAY CAUSE SKIN SENSITIZATION. DERMATITIS.

ACRYLATES HAVE BEEN REPORTED TO BE MUTAGENIC ONLY IN THE MOUSE LYMPHOMA ASSAY, BUT NEGATIVE IN THE AMES TEST.

ADDITIONAL KNOWN HEALTH HAZARDS: NO DATA FOUND

SECTION VII -- REACTIVITY DATA

THIS MIXTURE IS POTENTIALLY UNSTABLE AND HAZARDOUS POLYMERIZATION MAY OCCUR IF EXPOSED TO MATERIALS AND CONDITIONS TO BE AVOIDED.

INCOMPATIBILITY (MATERIALS TO AVOID):
STRONG ACIDS, OXIDIZERS, ALKALI METAL HYDROXIDES, POLYMERIZATION INITIATORS, PEROXIDES, INERT GASES, PRIMARY AND SECONDARY AMINES.

HAZARDOUS DECOMPOSITION PRODUCTS:
CARBON MONOXIDE, CARBON DIOXIDE, MIXED OXIDES OF NITROGEN, SULFUR AND METHACRYLATE MONOMERS.

CONDITIONS TO AVOID:
EXTREME TEMPERATURES, DIRECT SUNLIGHT, X-RAY SOURCES, ELECTRON BEAM SOURCES, OR ULTRAVIOLET RADIATION SOURCES.

SECTION VIII -- SPILL OR LEAK PROCEDURES

PRECAUTIONS IF MATERIAL IS SPILLED OR RELEASED:
PLACE LEAKING CONTAINERS IN A WELL VENTILATED AREA. AVOID BREATHING VAPORS. ELIMINATE ALL SOURCES OF HEAT, AS WELL AS ALL CONDITIONS NOTED IN SECTION VII, ABOVE. NOTIFY PROPER AUTHORITIES IF PUBLIC WATERS OR SEWERS ARE CONTAMINATED.

WASTE DISPOSAL METHODS:
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.

SECTION IX -- SAFE HANDLING AND USE INFORMATION

RESPIRATORY PROTECTION:
DO NOT BREATHE VAPORS OR SPRAY MISTS. WEAR AN APPROPRIATE, PROPERLY FITTED RESPIRATOR (NIOSH/OSHA APPROVED) DURING AND AFTER APPLICATION UNLESS AIR MONITORING DEMONSTRATES VAPOR/MIST LEVELS ARE BELOW APPLICABLE LIMITS. FOLLOW RESPIRATOR MANUFACTURER'S DIRECTIONS FOR RESPIRATOR USE.
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 WHENEVER A SPLASH HAZARD IS PRESENTED.
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.

SECTION X -- SPECIAL PROCEDURES

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

OTHER PRECAUTIONS:
LEATHER GLOVES, APRONS, BELTS, OR BOOTS MAY BE PERMEATED BY THESE MATERIALS, CAUSING DELAYED AND PERSISTENT IRRITATION CHEMICAL BURNS. LEATHER ITEMS SHOULD BE DISPOSED OF, ONCE CONTAMINATED.

SECTION XI -- DISCLAIMER

TW GRAPHICS 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 TW GRAPHICS'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 -- PURCHASERS' OBLIGATIONS

TW GRAPHICS 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 THE 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 DOES NOT CONTAIN CHEMICALS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER OR REPRODUCTIVE TOXICITY.

SECTION X1V--TRANSPORT INFORMATION

DOT/IATA PROPER SHIPPING NAME
UV CURABLE INK

DOT/IATA HAZARD CLASS
NOT REGULATED

DOT/IATA UN OR NA NUMBER
NOT REGULATED

DOT/IATA PACKING GROUP
NOT REGULATED

DOT/IATA LABEL
NOT REGULATED

DOT/IATA PLACARD
NOT REGULATED