

FROM SP31 MPLS MN

(MON) 10. 25' 99 17:39/ST. 17:25/NO. 3561723826 P. 2/6

SERICOL, INC./SUMMIT SCREEN INK
20 WEST 14TH AVENUE
NORTH KANSAS CITY, MISSOURI 64116
(816) 474-0650

HMIS RATINGS
HEALTH-----1
FLAMMABILITY-----1
REACTIVITY-----0

2230
[Handwritten signature]

* MATERIAL SAFETY DATA SHEET *

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

EMERGENCY PHONE NUMBER
(816) 587-8178

PREPARER: CRAIG FOGGENFOHL DATE OF PREPARATION
REGULATORY COMPLIANCE MGR. 06/26/97/CP

REVISIONS:

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SECTION I--PRODUCT IDENTIFICATION

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PRODUCT CODE : K89782
LABEL IDENTITY: ZJET 980 RETARDER
PRODUCT CLASS : SCREEN INK REDUCER

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SECTION II--HAZARDOUS INGREDIENTS

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| COMMON NAME (CAS REGISTRY #) | RECOMMENDED EXPOSURE LIMITS (PPM)* | | VAPOR PRESSURE (mm Hg @ 20 C)* |
|--|---------------------------------------|----------|-----------------------------------|
| | ACGIH TLV-TWA | OSHA PEL | |
| DIETHYLENE GLYCOL ETHYL ETHER ACETATE S14600 (112-15-2) | NE | NE | 0.05 |

NA - NOT APPLICABLE NE - NOT ESTABLISHED UKN - UNKNOWN
* UNLESS NOTED OTHERWISE, THE UNITS ARE PPM AND mm Hg @ 20 C,
RESPECTIVELY, FOR EXPOSURE LIMITS AND VAPOR PRESSURES.

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SECTION III -- PHYSICAL AND CHEMICAL CHARACTERISTICS

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BOILING POINT: 417.2 - 429.8 DEGREES FAHRENHEIT.
DENSITY IS 8.43 LBS./GALLON
VOC CONTENT OF MATERIAL: 100% OR 1,008 GRAMS PER LITER.
VOC CONTENT OF COATING LESS WATER AND LESS EXEMPT SOLVENTS: 1,008 G/L.
SOLUBILITY IN WATER: 100%
SPECIFIC VAPOR DENSITY (AIR = 1): 6.07.
EVAPORATION RATE (N-BUTYL ACETATE = 1) < 0.01
APPEARANCE AND ODOR: COLORLESS, MOBILE, CLEAR LIQUID. FAINT ODOR.

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SECTION IV -- PHYSICAL HAZARD DATA

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FLAMMABILITY CLASSIFICATIONS: OSHA: CLASS IIIB DOT: NOT REGULATED
CLOSED CUP FLASH POINT: 211 F. LOWER EXPLOSIVE LIMIT: 0.9 %
UPPER EXPLOSIVE LIMIT: 19.4 %

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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. INDUCE VOMITING IF THE VICTIM IS CONSCIOUS. 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 OVEREXPOSURE

ACUTE EFFECTS:

SWALLOWING: SINGLE DOSE ORAL TOXICITY IS LOW. SWALLOWING SMALL AMOUNTS DURING NORMAL HANDLING IS NOT LIKELY TO CAUSE HARMFUL EFFECTS; SWALLOWING LARGE AMOUNTS MAY BE HARMFUL. SYMPTOMS MAY INCLUDE GASTROINTESTINAL IRRITATION (NAUSEA, VOMITING, DIARRHEA).

SKIN ABSORPTION: NO DATA.

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INHALATION: OVEREXPOSURE INCLUDES NOSE, THROAT AND RESPIRATORY TRACT IRRITATION.

SKIN CONTACT: EXPOSURE MAY CAUSE MILD SKIN IRRITATION. SYMPTOMS MAY INCLUDE REDNESS AND BURNING.

EYE CONTACT: EXPOSURE MAY CAUSE MILD EYE IRRITATION. SYMPTOMS MAY INCLUDE STINGING, TEARING, AND REDNESS.

MEDICAL CONDITIONS KNOWN TO BE AGGRAVATED BY OVEREXPOSURE: PRE-EXISTING LUNG DISORDERS, E.G. ASTHMA-LIKE CONDITIONS.

CHRONIC EFFECTS: NO DATA.

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 ALKALIES.

HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE, CARBON DIOXIDE, VARIOUS HYDROCARBONS.

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: DISPOSE OF IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS. 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

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

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

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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.

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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.

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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, 99-100% 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: THIS PRODUCT IS NOT "PHOTOCHEMICALLY REACTIVE" BY DEFINITION OF RULE 102 OF THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT.