

Material Safety Data Sheet

THE EMERGENCY PHONE NUMBERS ARE: CHEMTREC (800) 424-9300
HOECHST CELANESE (908) 231-5423
FOR (NON EMERGENCY) PRODUCT INFORMATION CALL: (908) 231-5566

PAGE 1

PRODUCT IDENTIFICATION

PRODUCT NAME:
AZ 4903 PHOTORESIST
SYNONYMS:
LIQUID POSITIVE PHOTORESIST
CHEMICAL FAMILY:
RESIN SOLUTION

VERSION DATE: 09/12/89
DATE PRINTED: 09/29/93
MSDS NUMBER: 500070C5

HAZARDOUS INGREDIENTS

INGREDIENT:	PERCENT:	HAZARD DATA:
* 2-ETHOXYETHYL ACETATE, CELLOSOLVE ACETATE, CA, EEA, CAS# 111-15-9	43	LD 50 TWA STEL 5.1 G/KG 5 PPM(OSHA=100PPM) (SKIN,ACGIH)
* N-BUTYL ACETATE, CAS# 123-86-4	5	14.0 G/KG 150 PPM 200 PPM OSHA/ 5.0 G/KG 100 PPM 150 PPM ACGIH
* XYLENE, XYLOL, CAS# 1330-20-7	5	INHALATION AND CONTACT HAZARD. SEE HEALTH INFORMATION. COMBUSTIBLE.
* PENNSYLVANIA RIGHT TO KNOW LIST OTHER: CRESOL NOVOLAK RESIN(9065- 82-1), 2,1,5-DIAZONAPHTHOQUINONE SULFONIC ACID, ESTERS WITH 2,3,4- TRIHYDROXYBENZOPHENONE(5610-94-6)		PENNSYLVANIA RIGHT TO KNOW LISTING

PHYSICAL DATA

PHYSICAL DATA	LOW	HIGH	UNITS	COMMENT
BOILING POINT		124	°C	BEGINS
SOLUBILITY IN WATER				FORMS 2 LAYERS
VISCOSITY		1200	CST	
% VOLATILE		53		
SPECIFIC GRAVITY (WATER =1)		1.08		
EVAPORATION RATE				<ETHER

APPEARANCE AND ODOR:
AMBER-RED LIQUID, CHARACTERISTIC ODOR

FIRE AND EXPLOSION HAZARDS

FLASH POINT: 110 °F TAG CC

EXTINGUISHING MEDIA:
CARBON DIOXIDE, WATER, ALCOHOL FOAM OR DRY CHEMICAL

SPECIAL PROCEDURES:
USE SELF-CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE CLOTHING.
USE WATER SPRAY TO COOL DRUMS IN FIRE AREA.

UNUSUAL HAZARDS:
SOLVENT VAPORS.
EMITS TOXIC FUMES UNDER FIRE CONDITIONS.

HEALTH INFORMATION

PRIMARY ROUTE OF EXPOSURE: INHALATION: YES SKIN ABSORPTION: YES INGESTION: NO
ALSO SKIN AND EYE CONTACT WITH LIQUID AND VAPORS.

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-----HEALTH INFORMATION----- (CONTINUED)

EFFECTS OF OVEREXPOSURE:

2-ETHOXYETHYL ACETATE: LIQUID & HIGH CONCENTRATIONS OF VAPOR ARE EYE & RESPIRATORY TRACT IRRITANTS & MAY CAUSE KIDNEY DAMAGE, LIVER DAMAGE, NARCOSIS AND PARALYSIS.
IN STUDIES WITH LABORATORY ANIMALS, 2-ETHOXYETHYL ACETATE CAUSED BIRTH DEFECTS, INCREASED FETAL DEATH, DELAYED FETAL DEVELOPMENT, BLOOD EFFECTS, TESTICULAR DAMAGE AND MALE INFERTILITY. THIS PRODUCT CONTAINS XYLENE, WHICH IS A SKIN, EYE AND MUCOUS MEMBRANE IRRITANT. ON INGESTION, XYLENE CAUSES SEVERE GASTRO-INTESTINAL DISTRESS; WHEN INHALED, HIGH CONCENTRATIONS OF XYLENE VAPORS CAUSE DIZZINESS, EXCITEMENT, DROWSINESS, INCOORDINATION, STAGGERING GAIT, EYE, NOSE AND THROAT IRRITATION, CORNEAL VACUOLIZATION, ANOREXIA, NAUSEA, VOMITING, ABDOMINAL PAIN AND DERMATITIS. XYLENE CHRONIC EXPOSURE IS SIMILAR TO ACUTE BUT SYMPTOMS ALSO INCLUDE HEADACHE; IMPAIRED MEMORY; LIVER EFFECTS; AND WEAKNESS. DIRECT CONTACT WITH XYLENE (LIQUID) CAN CAUSE DERMATITIS.

TOXICITY TEXT:

CONTINUED FROM EFFECTS OF OVEREXPOSURE ABOVE.
XYLENE IS READILY ABSORBED THROUGH THE SKIN. IT IS REPORTED TO CAUSE DEVELOPMENTAL AND FETO/EMBRYO TOXICITY, BUT ONLY AT MATERNALLY TOXIC DOSES. XYLENE IS READILY ABSORBED THROUGH THE LUNGS AND PRODUCES MINOR REVERSIBLE EFFECTS ON THE KIDNEY AND LIVER IN TEST ANIMALS.
N-BUTYL ACETATE: SKIN AND EYE IRRITANT; INHALATION OF VAPORS AT HIGH CONCENTRATIONS CAN CAUSE IRRITATION OF EYES AND RESPIRATORY TRACT AND NARCOSIS; SYSTEMIC EFFECTS HAVE NOT BEEN CONCLUSIVELY SHOWN.
NOTE: RECENT ANIMAL TESTS HAVE SHOWN THAT AN AEROSOL OF N-BUTYL ACETATE, BUT NOT ITS VAPOR, IS HIGHLY TOXIC. SPECIAL CARE MUST BE TAKEN TO AVOID GENERATION OF OR EXPOSURE TO AEROSOLS OR MISTS OF NBA.

MEDICAL CONDITIONS AGGRAVATED:

PREEXISTING EYE, SKIN AND RESPIRATORY CONDITIONS MAY BE AGGRAVATED BY EXPOSURE

CARCINOGEN: IARC: NO NTP: NO OSHA: NO

-----OCCUPATIONAL EXPOSURE LIMITS-----

TEXT:

SEE HAZARDOUS INGREDIENTS SECTION.

-----EMERGENCY AND FIRST AID PROCEDURE-----

INHALATION:

MOVE VICTIM TO FRESH AIR. CONSULT PHYSICIAN IF IRRITATION OCCURS.

EYE CONTACT:

FLUSH THOROUGHLY WITH WATER FOR 15 MINUTES. GET IMMEDIATE MEDICAL HELP.

SKIN CONTACT:

IMMEDIATELY REMOVE CONTAMINATED CLOTHING AND WASH AFFECTED AREA THOROUGHLY WITH SOAP AND WATER.
CONSULT PHYSICIAN IF EXPOSURE IS EXTENSIVE OR IRRITATION OCCURS.

INGESTION:

IF PERSON IS CONSCIOUS, GIVE WATER OR MILK TO DILUTE STOMACH CONTENTS.
CONSULT PHYSICIAN.

Hoechst Celanese

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-----EMERGENCY AND FIRST AID PROCEDURE----- (CONTINUED)

ADDITIONAL MEASURES:
ADMINISTER OXYGEN IF THERE IS DIFFICULTY IN BREATHING.

-----REACTIVITY DATA-----

CHEMICAL STABILITY: STABLE HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

CONDITIONS TO AVOID:
AVOID CONTACT WITH OXIDIZING AGENTS.
AVOID CONTACT WITH ALKALINE MATERIALS.
AVOID CONTACT WITH STRONG ACIDS.

HAZARDOUS DECOMPOSITION PRODUCTS:
THERMAL DECOMPOSITION MAY GENERATE
CARBON DIOXIDE, CARBON MONOXIDE AND OXIDES OF NITROGEN AND SULFUR
AS WELL AS VOLATILE ORGANIC RESIDUES.

-----SPILL OR LEAK PROCEDURES/WASTE DISPOSAL-----

SPILL OR LEAK PROCEDURES:
REMOVE ALL SPARKING DEVICES OR IGNITION SOURCES. PROVIDE VENTILATION.
WEARING APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT, CONTAIN SPILL,
COLLECT ONTO INERT ABSORBENT. PLACE IN SUITABLE CONTAINER.

WASTE DISPOSAL:
LISTED AS A HAZARDOUS SUBSTANCE, AS DEFINED IN THE COMPREHENSIVE
ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT OF 1980.
DISPOSE OF OR INCINERATE IN ACCORDANCE WITH REGULATIONS.

-----EMPLOYEE PROTECTION -----

RESPIRATORY PROTECTION:
CHEMICAL CARTRIDGE RESPIRATOR RECOMMENDED FOR EXPOSURES EXCEEDING TLV.
SEE SPECIAL PRECAUTIONS.

PROTECTIVE CLOTHING:
CLOTHING SUITABLE TO PREVENT SKIN CONTACT.
SAFETY EYEWEAR TO PROTECT AGAINST SPLASHES.
RUBBER GLOVES.

ADDITIONAL PROTECTIVE MEASURES:
USE LOCAL EXHAUST VENTILATION.
CONTACT LENSES SHOULD NOT BE WORN WHEN WORKING WITH THIS CHEMICAL.

-----SPECIAL PRECAUTIONS-----

STORE AT 30-70°F
STORE IN ORIGINAL CONTAINER.
TRANSPORT AND STORE UNDER DRY CONDITIONS TIGHTLY CLOSED
AND PROTECTED FROM LIGHT.
PRESSURE MAY BUILD UP SLOWLY IN CLOSED CONTAINERS DUE TO
GRADUAL DECOMPOSITION. THIS IS ACCELERATED BY HEAT AND
LIGHT WITH POSSIBLE LIBERATION OF COMBUSTIBLE SOLVENT VAPORS.
KEEP AWAY FROM HEAT SPARKS AND FLAME.

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-----OTHER REGULATORY CONTROLS-----

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THE COMPONENTS OF THIS PRODUCT ARE LISTED ON THE TSCA INVENTORY.

THIS PRODUCT CONTAINS THE TOXIC CHEMICAL OR CHEMICALS LISTED BELOW,
WHICH ARE SUBJECT TO THE SUPPLIER NOTIFICATION REQUIREMENTS OF
SECTION 313 OF THE SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF
1986 ("SARA") AND THE REQUIREMENTS OF 40 CFR PART 372.

INGREDIENT	CAS #	PERCENT
2-ETHOXYETHYL ACETATE	111-15-9	48
XYLENE	1330-20-7	5

OSHA PHYSICAL HAZARDS:
COMBUSTIBLE LIQUID

OSHA HEALTH HAZARDS:
BLOOD TOXIN
EYE HAZARD
IRRITANT
KIDNEY TOXIN
LUNG TOXIN
NERVE SYSTEM TOXIN
REPRODUCTIVE TOXIN
SKIN HAZARD

SARA HAZARD CLASS:
ACUTE: YES CHRONIC: YES FIRE HAZARD: YES PRESSURE: NO REACTIVITY: NO