

SAFETY SPEC 83609979  
APPENDIX C PAGE 1 SHEET 10**Hoechst Celanese**

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**Material Safety Data Sheet**

THE EMERGENCY PHONE NUMBERS ARE: CHEMREC (800) 424-9300  
 HOECHST CELANESE (908) 231-4944  
 FOR (NON EMERGENCY) PRODUCT INFORMATION CALL: (908) 231-5566

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 PRODUCT IDENTIFICATION-----  
 VERSION DATE: 12/07/88  
 DATE PRINTED: 09/14/92  
 MSDS NUMBER: 50007060

PRODUCT NAME:  
 AZ 4330 PHOTORESIST

SYNONYMS:  
 LIQUID POSITIVE PHOTORESIST

CHEMICAL FAMILY:  
 RESIN SOLUTION

## -----HAZARDOUS INGREDIENTS-----

## INGREDIENT:

## PERCENT: HAZARD DATA:

* 2-ETHOXYETHYL ACETATE, CELLOSOLVE ACETATE, CA, EEA, CAS# 111-15-9	52	LD 50 5.1 G/KG (SKIN)	TWA 5 PPM(OSHA=100PPM)	STEL
* N-BUTYL ACETATE, CAS# 123-86-4	6	14.0 G/KG 5.0 G/KG	150 PPM 100 PPM	200 PPM 150 PPM
* XYLENE, XYLOL, CAS# 1330-20-7	6	INHALATION AND CONTACT HAZARD. SEE HEALTH INFORMATION. COMBUSTIBLE.		
* PENNSYLVANIA RIGHT TO KNOW LIST OTHER: CRESOL NOVOLAK RESIN(117520 -84-0), 2,1,5-DIAZONAPHTHOQUINONE SULFONIC ACID, ESTERS WITH 2,3,4- TRIHYDROXYBENZOPHENONE(5610-94-6)		NJ AND PA RIGHT-TO-KNOW LISTINGS		

## -----PHYSICAL DATA-----

## PHYSICAL DATA

## LOW

## HIGH

## UNITS

## COMMENT .

BOILING POINT

115

°C

BEGINS

SOLUBILITY IN WATER

FORMS 2 LAYERS

VISCOOSITY

100

CST

% VOLATILE

64

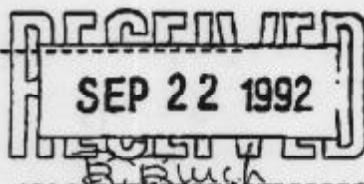
SPECIFIC GRAVITY (WATER =1)

1.05

&lt;ETHER

EVAPORATION RATE

APPEARANCE AND ODOR:  
 AMBER-RED LIQUID, CHARACTERISTIC ODOR



## -----FIRE AND EXPLOSION HAZARDS-----

FLASH POINT: 106 °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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APPENDIX C PAGE 2 SHEET 11**Hoechst Celanese**Hoechst Celanese Corporation  
Electronic Products Division  
P.O. Box 3700  
50 Meister Avenue  
Somerville, NJ 08876-1258**Material Safety Data Sheet**

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 AZ 4330 PHOTORESIST

**-----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:**

XYLENE IS READILY ABSORBED THROUGH THE SKIN. IT IS REPORTED TO CAUSE REPRODUCTIVE EFFECTS AND BIRTH DEFECTS IN RATS AND MICE BUT THERE IS NO EVIDENCE OF THIS IN HUMANS. XYLENE IS REPORTED TO BE A MUTAGEN INVITRO.

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 SKIN, EYE AND RESPIRATORY CONDITIONS MAY BE AGGRAVATED.

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.

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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:  
WEARING APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT, CONTAIN SPILL,  
VENTILATE AREA OF SPILL OR LEAK  
REMOVE ALL SPARKING DEVICES OR IGNITION SOURCES.  
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-----****OTHER REGULATORY CONTROLS:**  
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.

SARA INGREDIENT	CAS #	PERCENT
2-ETHOXYETHYL ACETATE	111-15-9	52
XYLENE	1330-20-7	6

**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