

Hoechst Celanese Corporation
AZ Photoresist Products
P.O. Box 3700
70 Meister Avenue
Somerville, NJ 08876-1258

Material Safety Data Sheet

THE EMERGENCY PHONE NUMBERS ARE: CHEMTREC (800) 424-9300
HOECHST CELANESE (908) 231-5423
FOR (NON EMERGENCY) PRODUCT INFORMATION CALL: (800) 235-2637 PAGE 1

-----PRODUCT IDENTIFICATION-----

PRODUCT NAME:
AZ P4110 PHOTORESIST
SYNONYMS:
LIQUID POSITIVE PHOTORESIST
CHEMICAL FAMILY:
RESIN SOLUTION

VERSION DATE: 02/15/94
DATE PRINTED: 11/17/94
MSDS NUMBER: 500070K4

-----HAZARDOUS INGREDIENTS-----

INGREDIENT: PROPYLENE GLYCOL MONOMETHYL
ETHER ACETATE, PMA, PGMEA,
1-METHOXY-2-PROPYL ACETATE,
CAS# 108-65-6
OTHER:
CRESOL NOVOLAK RESIN(117520-84-0)
2,1,5-DIAZONAPHTHOQUINONE ESTER
WITH 2,3,4-TRIHIDROXYBENZO-
PHENONE(5610-94-6)

PERCENT: 76 HAZARD DATA:
INHALATION, CONTACT HAZARD.
COMBUSTIBLE.
SEE EFFECTS OF OVEREXPOSURE

PENNSYLVANIA RIGHT TO KNOW LISTING
"OTHER" LISTINGS NOT ON ANY STATE
R-T-K LIST OR DEFINED AS HAZARDOUS

-----PHYSICAL DATA-----

PHYSICAL DATA	LOW	HIGH	UNITS	COMMENT
BOILING POINT	BEGINS	134	°C	
SOLUBILITY IN WATER				FORMS TWO LAYERS
VISCOSITY		17	CST	
% VOLATILE		76		
SPECIFIC GRAVITY (WATER =1)		1.1		
EVAPORATION RATE				<ETHER

APPEARANCE AND ODOR:
AMBER-RED LIQUID, CHARACTERISTIC ODOR.

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

FLASH POINT: 112 °F PM 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. SEE HAZARDOUS INGREDIENTS AND HEALTH INFORMATION.
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.

EFFECTS OF OVEREXPOSURE:
PGMEA CAN CAUSE SKIN, EYE AND RESPIRATORY IRRITATION. EXTREME OR PRO-
LONGED EXPOSURE MAY CAUSE GASTRIC AND CENTRAL NERVOUS SYSTEM EFFECTS.
PGMEA IS READILY ABSORBED THROUGH INTACT SKIN.

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

TOXICITY:	ROUTE	TEST	DOSE	UNITS	COMMENTS
	ORAL	LD50RAT	8.5	G/KG	PGMEA/MALE
	ORAL	LD50RAT	10.0	G/KG	PGMEA/FEMALE
	DERMAL	LD50RBT	>5.0	G/KG	PGMEA
	INH	LC50RAT	>4350	PPM	PGMEA

MEDICAL CONDITIONS AGGRAVATED:
PREEXISTING SKIN, EYE AND RESPIRATORY CONDITIONS MAY BE AGGRAVATED.

CARCINOGEN: IARC: NO NTP: NO OSHA: NO

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

T.L.V.: PGMEA 100 PPM

TEXT:
SUGGESTED BY MANUFACTURER.

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

INHALATION:
REMOVE 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.

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

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

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

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

PROTECTIVE CLOTHING:
CLOTHING SUITABLE TO PREVENT SKIN CONTACT.
SAFETY GOGGLES OR FULL FACE SHIELD.
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
KEEP AWAY FROM HEAT SPARKS AND FLAME.
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.

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

OTHER REGULATORY CONTROLS:
THE COMPONENTS OF THIS PRODUCT ARE LISTED ON THE TSCA INVENTORY.

OSHA PHYSICAL HAZARDS:
COMBUSTIBLE LIQUID

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

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