

**Material Safety Data Sheet**THE EMERGENCY PHONE NUMBER IS: (201) 231-2244  
FOR OTHER PRODUCT SAFETY INFORMATION CALL: (201) 231-2132

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## -----PRODUCT IDENTIFICATION-----

VERSION DATE: 09/16/88  
DATE PRINTED: 09/16/88  
MSDS NUMBER: 500070D9

## PRODUCT NAME:

AZ 5214-E PHOTORESIST

## SYNONYMS:

LIQUID POSITIVE PHOTORESIST

## CHEMICAL FAMILY:

RESIN SOLUTION

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

## INGREDIENT:

PROPYLENE GLYCOL MONOMETHYL  
ETHER ACETATE, PMA, PGMEA,  
1-METHOXY-2-PROPYL ACETATE,  
CAS# 108-65-6

## OTHER:

CRESOL-FORMALDEHYDE NOVOLAK RESIN  
(9016-83-5), DIAZONAPHTHOQUINONE  
SENSITIZER(TRADE SECRET IDENTITY  
PER PENNSYLVANIA RIGHT-TO-KNOW)

PERCENT: 71

## HAZARD DATA:

INHALATION, CONTACT HAZARD.  
COMBUSTIBLE.  
SEE EFFECTS OF OVEREXPOSUREPENNSYLVANIA RIGHT TO KNOW LISTING  
EXTRA PA LISTINGS NOT REGULATED AS  
HAZARDOUS IN THIS FORMULATION.

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

PHYSICAL DATA	LOW BEGINS	HIGH	UNITS	COMMENT
BOILING POINT		~ 134	°C	
SOLUBILITY IN WATER				FORMS TWO LAYERS
VISCOSITY		~ 24	CST	
% VOLATILE		~ 71		
SPECIFIC GRAVITY (WATER = 1)		~ 1.03		
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 LIQUID AND VAPOR CONTACT WITH EYES.

## EFFECTS OF OVEREXPOSURE:

1-METHOXY-2-PROPYL ACETATE: LIQUID & HIGH CONCENTRATIONS OF VAPOR ARE  
EYE & RESPIRATORY TRACT IRRITANTS & MAY CAUSE NARCOSIS.  
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

## TOXICITY TEXT:

IN A SINGLE REPORTED RABBIT STUDY THE MINOR ISOMER IN PGMEA, 2-METHOXY-1-PROPYL ACETATE, PRESENT AT ~ 2% GAVE A TERATOGENIC RESPONSE BY INHALATION AT 535 PPM. ALL OTHER CHRONIC TOXICITY TESTS HAVE SO FAR PROVEN NEGATIVE. ARCO CHEMICAL ADVISES THAT CONSIDERING THE MANY NEGATIVE TOXICITY RESULTS ON PGMEA AND THE LOW ISOMER LEVEL "...THE EFFECTS DESCRIBED IN THE ECTOC REPORT ARE NOT EXPECTED TO BE OF CONCERN."

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.  
CONSULT PHYSICIAN.

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.

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:  
REMOVE ALL SPARKING DEVICES OR IGNITION SOURCES.  
COLLECT ONTO INERT ABSORBENT. PLACE IN SUITABLE CONTAINER.  
PROVIDE VENTILATION.WASTE DISPOSAL:  
DISPOSE OF OR INCINERATE IN ACCORDANCE WITH LOCAL 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.

## -----TRANSPORTATION REGULATORY REQUIREMENTS-----

DOT PROPER SHIPPING NAME:  
COMBUSTIBLE LIQUID, N.O.S.DOT CLASSIFICATION:  
COMBUSTIBLE LIQUID

UN/NA: NA 1993

OTHER DOT REQUIREMENTS:  
NOT REGULATED IN CONTAINERS LESS THAN 110 GALLONS.  
SEE DOT AND IATA REGULATIONS.

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

OTHER REGULATORY CONTROLS:  
ONE OF THE COMPONENTS OF THIS PRODUCT IS NOT ON THE TSCA INVENTORY.  
THE COMPONENT, HOWEVER, IS COVERED BY A LOW VOLUME EXEMPTION.

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-----OTHER REGULATORY CONTROLS----- (CONTINUED)

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

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