

MATERIAL SAFETY DATA SHEET  
AZ® EXP 125nXT-10A Photoresist



Substance key: 000000502238  
Version 1

REVISION DATE: 09/24/2007  
Print Date: 09/16/2008

**Section 01 - Product Information**

**Identification of the company:**

AZ Electronic Materials USA Corp.  
70 Meister Avenue  
Somerville, NJ 08876  
Telephone No.: 800-515-4164

**Information on the substance/preparation**

Product Safety: 908-429-3562

**Emergency Tel. number:** 800-424-9300 CHEMTREC

**Trade name:** AZ® EXP 125nXT-10A Photoresist

**Material No.:** 000000000110002766

**Section 02 - Composition information**

**Hazardous ingredients:**

Chemical Name	CAS-no. (Trade secret no.)	Concentration [%]
1-Methoxy-2-propanol acetate	108-65-6	20.00 - 25.00
Phenone derivative	67829000004-5905P	1.00 - 5.00
Triarylphosphine oxide	67829000004-5975P	1.00 - 3.00

**Non-hazardous ingredients:**

Chemical Name	CAS-no. (Trade secret no.)	Concentration [%]
Modified phenolic resin	67829000004-6161P	25.00 - 30.00
Methacrylate Monomer	67829000004-6162P	20.00 - 25.00
Modified diacrylate	NJTSRNSR268	10.00 - 15.00
Modified phenolic resin	67829000004-6238P	5.00 - 10.00

**Section 03 - Hazardous identification**

**Emergency overview:**

OSHA combustible liquid; DOT flammable liquid., Strong characteristic odor., Irritating on contact or inhalation., Potential sensitizer., Partially dissolves in water leaving a floating viscous mass.

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**Expected route of entry**

**Skin contact:** yes  
**Ingestion:** no  
**Inhalation:** yes  
**Eye contact:** Contact with liquid and vapors.  
**Skin absorption:** yes

**Health effects of exposure:**

**Component information:**

Eye: Causes eye irritation. Skin: Causes skin irritation. Ingestion: May be harmful if swallowed. Inhalation: Single exposure unlikely to be hazardous. High vapor concentration causes irritation to the nose, throat, and lungs. Systemic Effects: No hazard in normal industrial use. Reproductive & birth defects: Exposures having no adverse effect on the mother should have no effect on the fetus.

**1-Methoxy-2-propanol acetate (108-65-6)**

1-Methoxy-2-propanol acetate (PGMEA) can cause skin, eye, and respiratory irritation. Extreme or prolonged exposure may cause gastric and central nervous system effects. Long term, high level exposure to PGMEA has resulted in adverse effects to the livers and kidneys of experimental animals. PGMEA is readily absorbed through intact skin.

**Modified diacrylate**

The modified diacrylate, is corrosive to eyes and is a severe skin irritant.

**Phenone derivative**

The phenone derivative, although not found to be acutely irritating or mutagenic, was observed to cause delayed neurological or ocular damage resulting from repeated exposure in an oral subchronic study. Reproductive and developmental effects were seen in a one generation/prenatal developmental toxicity study with effects on embryo/feto development at dose levels  $\geq 40$ mg/kg and reproductive effects observed at levels  $\geq 80$  mg/kg.

**Triarylphosphine oxide**

Triarylphosphine oxide is a skin sensitizer in the guinea pig.

**Known effects on other illnesses:** Preexisting skin, eye, and respiratory conditions may be aggravated.

**Listed carcinogen:** IARC: NO NTP: NO OSHA: NO

**HMIS:**

Health: 2 Flammability: 2 Reactivity: 0 Personal protection: X



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**NFPA:**

Health: 2                      Flammability: 2                      Reactivity: 0                      Special notice: NONE

**Section 04 - First aid measures**

**After inhalation:** Remove victim to fresh air.  
Consult physician if irritation occurs.

**After contact with skin:** Immediately remove contaminated clothing. Flush affected area thoroughly with water. After flushing with water, remove residue with soap and water. If necessary, clean area with a cloth or paper towel wetted with acetone. Assure adequate ventilation. Dispose of cloth/towel in a suitable receptacle. Consult physician if exposure is extensive or if irritation occurs.

**After contact with eyes:** Flush thoroughly with water for 15 minutes. Get immediate medical help.

**After ingestion:** If person is conscious, give water or milk to dilute stomach contents.  
Never give anything by mouth to an unconscious person.  
Consult physician.

**Advice to doctor / Treatment:** Administer oxygen if there is difficulty in breathing.

**Section 05 - Fire fighting measures**

**Flash point:** approx. 106 °F

**Suitable extinguishing media:** Carbon dioxide, water, alcohol resistant foam, dry chemical.

**Special fire fighting procedure:** Use self-contained breathing apparatus and full protective clothing. Use water spray to cool drums in fire area.

**Special hazards from the substance itself, its combustion products or from its vapours:** Thermal decomposition may generate carbon dioxide, carbon monoxide, and oxides of nitrogen and sulfur.

**Unusual fire and explosion hazards:** Solvent vapors., Emits toxic fumes under fire conditions.



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**Section 06 - Accidental release measures**

**Steps to be taken in case of spill or leak:**

Wearing appropriate personal protective equipment, contain spill, ventilate area of spill or leak, remove all sparking devices or ignition sources, collect onto inert absorbent, and place in a suitable container.

**Section 07 - Handling and Storage**

**Advice on safe handling:**

Keep away from heat and flame.  
Avoid breathing vapors and contact with skin, eyes, and clothing.  
Use only with adequate ventilation and proper protective eyewear, gloves, and clothing.  
Wash thoroughly after handling.  
Keep container closed.

**Further information for storage conditions:**

Store at appropriate temperature. See label for details.  
Store in original container.  
Transport and store under dry conditions tightly closed.  
May liberate combustible solvent vapors.

**Section 08 - Exposure Control / personal protection**

1-Methoxy-2-propanol acetate	108-65-6	ZUS_AIHAS	Time Weighted Average (TWA)	50 ppm	
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**Respiratory protection:** Chemical cartridge respirator recommended for exposures exceeding TLV.

**Hand protection:** Solvent Resistant Gloves.

**Eye protection:** Safety eyewear to protect against splashes.

**Body protection:** Clothing suitable to prevent skin contact.

**Additional advice on system design:** Use local exhaust ventilation.

**Section 09 - Physical and chemical properties**

**Form:** Liquid, viscous



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**Color:** Clear, colorless to pale yellow

**Odor:** Strong, characteristic odor.

**Solubility in water:** The solvent is water soluble but the product forms two layers.

**Evaporation number:** Reference substance: n-butyl acetate  
0.33 (PGMEA)

**Loss on drying:** 32 %

### Section 10 - Stability and reactivity

**Hazardous polymerization:** Will not occur.

**Conditions to avoid:** Avoid contact with oxidizing agents. Avoid contact with strong acids. Avoid contact with alkaline materials.

### Section 11 - Toxicological information

**1-Methoxy-2-propanol acetate (108-65-6)**

**Acute oral toxicity:** LD50 rat (male)  
8,500 mg/kg

**1-Methoxy-2-propanol acetate (108-65-6)**

**Acute oral toxicity:** LD50 rat (female)  
10,000 mg/kg

**Phenone derivative**

**Acute oral toxicity:** LD50 rat  
1,800 mg/kg

**Triarylphosphine oxide**

**Acute oral toxicity:** LD50 rat  
> 2,000 mg/kg  
Method: OECD 401 - EEC 92/69, B.1

**1-Methoxy-2-propanol acetate (108-65-6)**

**Acute inhalation toxicity** LC50 rat  
> 4350 ppm

**Phenone derivative**

**Acute inhalation toxicity** not determined

**1-Methoxy-2-propanol acetate (108-65-6)**

**Acute dermal toxicity:** LD50 rabbit



	> 5,000 mg/kg
<b>Phenone derivative</b>	
<b>Acute dermal toxicity:</b>	LD50 rat > 2,000 mg/kg
<b>Triarylphosphine oxide</b>	
<b>Acute dermal toxicity:</b>	LD50 rat > 2,000 mg/kg Method: OECD 402 - EEC 92/69, B.3
<b>Phenone derivative</b>	
<b>Skin irritation:</b>	rabbit Non-irritating
<b>Phenone derivative</b>	
<b>Eye irritation:</b>	rabbit eye Non-irritating
<b>Phenone derivative</b>	
<b>Sensitization:</b>	Guinea pig Not sensitizing in the maximum-dose test on guinea pigs
<b>Phenone derivative</b>	
<b>Further information:</b>	Mutagenicity: Ames test; Negative

## Section 12 - Ecological information

<b>Phenone derivative</b>	
<b>Biodegradability:</b>	aerobic
<b>1-Methoxy-2-propanol acetate (108-65-6)</b>	
<b>Fish toxicity:</b>	(Fathead minnow) 161 mg/l
<b>Phenone derivative</b>	
<b>Fish toxicity:</b>	LC50 (zebra fish) 9 ppm Exposure time: 96 h
<b>Triarylphosphine oxide</b>	
<b>Fish toxicity:</b>	LC50 (Brachydanio rerio) > 0.09 mg/l Exposure time: 96 h
<b>1-Methoxy-2-propanol acetate (108-65-6)</b>	
<b>Toxicity of aquatic</b>	(Daphnia magna)

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**invertebrates:** 400 mg/l

**Phenone derivative**  
**Toxicity of aquatic invertebrates:** EC50 (Daphnia magna)  
15 ppm  
Exposure time: 24 h

**Phenone derivative**  
**Algae toxicity :** (other algae)  
1.7 ppm  
Exposure time: 72 h

**Phenone derivative**  
**Bacteria toxicity:** aquatic IC20 (aerobic microorganisms)  
> 100 ppm  
Method:

**Phenone derivative**  
**Bacteria toxicity:** aquatic IC50 (aerobic microorganisms)  
> 100 ppm  
Method:

**Phenone derivative**  
**Bacteria toxicity:** aquatic IC80 (aerobic microorganisms)  
> 100 ppm  
Method:

### Section 13 - Disposal considerations

**Product:** Consult local, state, and federal regulations.  
For disposal, this material is a flammable hazardous waste under RCRA.

### Section 14 - Transport information

#### Land transport

- **DOT:**  
Not restricted

#### Sea transport

- **IMDG:**  
UN-No: 1993  
Proper technical name: FLAMMABLE LIQUIDS, N.O.S. (2-Methoxy-1-methylethyl acetate)

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Class: 3  
Packaging group: III  
Marine pollutant:  
EmS:  
MFAG: F-E, S-D  
Labels: 3

**Air transport**

▪ ICAO/IATA-DGR:  
UN/ID No.: UN 1993  
Proper technical name: FLAMMABLE LIQUIDS, N.O.S. (2-Methoxy-1-methylethyl acetate)  
Class: 3  
Packaging group: III  
Labels: 3

**Section 15 - Regulatory information**

**TSCA Status:** One or more components of this product are not listed on the TSCA Inventory. The components, however, are covered by Low Volume Exemptions (LVEs). These LVE-based products may only be used in conventional photolithographic processes consistent with their design. For any applications outside of this intended purpose, contact the vendor first.

**SARA (section 311/312):** Reactive hazard: no  
Pressure hazard: no  
Fire hazard: yes  
Immediate/acute: yes  
Delayed/chronic: no

**SARA 313 information:** This product is not subject to SARA Title III Section 313 reporting requirements under 40 CFR 372.

**Section 16 - Other information**

**Further information**

The physical, chemical, and toxicological properties of this material have not been thoroughly investigated. Therefore, it should be employed under the supervision of an individual technically qualified to understand its potential hazards.

**Label information**

CAUTION!

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COMBUSTIBLE LIQUID AND VAPOR MAY BE HARMFUL IF INHALED, SWALLOWED OR ABSORBED THROUGH SKIN Contains material that, based on animal data, can cause skin, eye, and respiratory irritation. Prolonged or repeated overexposure may cause gastric and central nervous system effects.

Keep away from heat and flame. Avoid breathing vapor. Avoid contact with skin, eyes, and clothing. Use only with adequate ventilation, and proper protective eyewear, gloves, and clothing. Wash thoroughly after handling. Keep container closed.

In case of contact, flush eyes with plenty of water for 15 minutes. Get medical attention immediately. Flush affected skin areas with water, and wash with mild soap and water. Remove contaminated clothing. If INHALED, remove individual to fresh air. If breathing is difficult, give oxygen. If ingested, give water or milk to dilute stomach contents. Never give anything by mouth to an unconscious person. Get medical attention immediately for ingestion or breathing problems or if skin contact is extensive.

In case of fire, use water, alcohol resistant foam, dry chemical, or CO2.

If spilled, wear protective clothing, remove ignition sources, prevent sparks, and ventilate area. Absorb with inert material, collect, and place in a chemical waste container.

Keep sealed in original container. Store between 41 and 59 F (5 and 15 C). Allow product to reach ambient temperature prior to use. Empty container may contain harmful residue.

The solvent in this product is not photochemically reactive per Rule 102 of the California South Coast Air Quality Management District.

Refer to current Material Safety Data Sheet (MSDS) for more detailed information prior to handling.

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This information is supplied under the OSHA Hazard Communication Standard, 29 CFR 1910.1200, and is offered in good faith based on data available to us that we believe to be true and accurate. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable to the material. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate for that use. No warranty, express or implied, is made regarding the accuracy of this data, the hazards connected with the use of the material, or the results to be obtained from the use thereof. We assume no responsibility for damage or injury from the use of the product described herein. Data provided here are typical and not intended for use as product specifications. (R) and TM indicate trademarks of AZ Electronic Materials USA Corp., its business partners and suppliers.

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