

## SECTION 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**MANUFACTURER/SUPPLIER NAME:** Clariant Corporation, AZ Electronic Materials

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**TELEPHONE NUMBERS:** Emergency-CHEMTREC: (800) 424-9300

Product Safety Information: (908) 429-3593

Customer Service: (800) 515-4164

**PRODUCT NAME:** AZ(R) EXP PLP(TM) 100XT PHOTORESIST

**SYNONYMS:** Liquid Positive Photoresist

**MSDS NO.** 704Q

**REVISION DATE:** 01/13/2000

**DATE PRINTED:** 01/31/2001

## SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Chemical Name &amp; CAS Number</u>	<u>Weight Percent</u>	<u>Hazardous?</u>	<u>NJ Trade Secret #</u>	<u>Ingredient Synonyms</u>	<u>Other Information:</u>
1-Methoxy-2-propanol 000107-98-2	40	Yes	N/A	Propylene glycol monomethyl ether, PM, PGME	PA RTK List.
1-Methoxy-2-propanol acetate 000108-65-6	10	Yes	N/A	Propylene glycol monomethyl ether acetate, PGMEA, PMA	None
<u>Chemical Name &amp; CAS Number</u>	<u>Weight Percent</u>	<u>Hazardous?</u>	<u>NJ Trade Secret #</u>	<u>Ingredient Synonyms</u>	<u>Other Information:</u>
Trade Secret : Cresol novolak resin	40-45	No	6782900004-5736P	None	Trade secret per NJ/PA RTK laws.
Trade Secret : Diazonaphthoquinonesulfonic esters	<5	No	6782900004-5522P	None	Trade secret per NJ/PA RTK laws.
Trade Secret : Cresol novolak resin	<5	No	6782900004-5548P	None	Trade secret per NJ/PA RTK laws.

## SECTION 3. HAZARDS IDENTIFICATION

### **EMERGENCY OVERVIEW:**

Amber-red liquid with characteristic odor. Partially dissolves in water leaving a floating viscous mass. OSHA and DOT flammable liquid. Irritating on contact or inhalation. May produce systemic or organ effects with repeated or excessive exposure.

### **POTENTIAL HEALTH EFFECTS:**

#### **Relevant Routes of Exposure:**

Inhalation. Skin absorption. Eye contact with liquid and vapors.

#### **Medical Conditions Aggravated:**

Preexisting skin, eye, and respiratory conditions may be aggravated.

**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.

**1-Methoxy-2-propanol, PGME**, produces skin and eye irritation. It is readily absorbed through intact skin. Repeated or excessive exposure can produce lung, liver, kidney, developmental, and central nervous system effects including dizziness, nausea, and anesthesia.

## SECTION 4. FIRST AID MEASURES

### **FIRST AID PROCEDURES:**

#### **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. 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. Wash area again with soap and water. Consult physician if exposure is extensive or if irritation occurs.

**Ingestion:**

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

**NOTE TO PHYSICIANS:**

Administer oxygen if there is difficulty in breathing.

**SECTION 5. FIRE FIGHTING MEASURES**

**Flash point:**

96 deg F, Closed Cup

**Extinguishing Media:**

Carbon dioxide, water, alcohol foam, 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.

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

**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, and place in a suitable container.

**SECTION 7. HANDLING AND STORAGE**

**Handling:**

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

**Storage:**

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

**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Engineering Controls:**

Use local exhaust ventilation.

**Personal Protective Equipment (PPE):**

Clothing suitable to prevent skin contact. Rubber gloves. Chemical cartridge respirator recommended for exposures exceeding TLV. Safety eyewear to protect against splashes.

**Exposure Guidelines:**

Chemical Name & CAS Number	Weight Percent	Manufacturer's TWA TLV*	ACGIH TWA TLV*	OSHA PEL*	NIOSH REL*	AIHA WEEL*
1-Methoxy-2-propanol 000107-98-2	40		100 ppm (369 mg/m <sup>3</sup> )		100 ppm (360 mg/m <sup>3</sup> )	
1-Methoxy-2-propanol acetate 000108-65-6	10	100 ppm				100 ppm (541 mg/m <sup>3</sup> )
Chemical Name & CAS Number	Weight Percent	Manufacturer's TWA TLV*	ACGIH TWA TLV*	OSHA PEL*	NIOSH REL*	AIHA WEEL*
Trade Secret : Cresol novolak resin	40-45					
Trade Secret : Diazonaphthoquinonesulfonic esters	<5					
Trade Secret : Cresol novolak resin	<5					

\*TWA TLV = Time Weighted Average Threshold Limit Value

ACGIH = American Conference of Governmental Industrial Hygienists

OSHA PEL = Occupational Safety and Health Administration Permissible Exposure Limit

NIOSH REL = National Institute of Occupational Safety and Health Recommended Exposure Limit

AIHA WEEL = American Industrial Hygiene Association Workplace Environmental Exposure Level

\*\*Skin Notation

\*\*\*Hoechst Celanese Workplace Exposure Level (HCC WEL); included is a "no contact" recommendation for NMP due to its skin absorption properties.

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

**Appearance:** Clear amber-red liquid.

**Odor:** Strong, characteristic odor.

**Physical State:** Liquid with dissolved solids.

**Vapor Pressure** 9.9 torr (calculated)

**Boiling Point:** Begins at 155 deg C.

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

**Specific gravity:** 1.1

**VOC:** 472 g/L

**Evaporation rate**

**(butyl acetate=1):** <ether

**% Volatile:** 51%

## **SECTION 10. STABILITY AND REACTIVITY**

**Chemical Stability:**

Stable.

**Hazardous Polymerization:**

Will not occur.

**Conditions to Avoid:**

Avoid contact with oxidizing agents. Avoid contact with strong acids. Avoid contact with alkaline materials.

**Hazardous Decomposition Products:**

Thermal decomposition may generate carbon dioxide, carbon monoxide, and oxides of nitrogen and sulfur.

## **SECTION 11. TOXICOLOGICAL INFORMATION**

**Carcinogen:**

IARC: NO NTP: NO OSHA: NO

### **Ingredient Toxicity Data:**

<u>Chemical Name &amp; CAS Number</u>	<u>Weight Percent</u>	<u>oral rat LD50</u>	<u>skin rbt LD50</u>	<u>inh rat LC50</u>
-				
1-Methoxy-2-propanol	40	5000 mg/kg	13,000 mg/kg	10,000 ppm
000107-98-2				
1-Methoxy-2-propanol acetate	10	8.5 g/kg/male, 10.0 g/kg/female	>5.0 g/kg	>4350 ppm
000108-65-6				
<u>Chemical Name &amp; CAS Number</u>	<u>Weight Percent</u>	<u>oral rat LD50</u>	<u>skin rbt LD50</u>	<u>inh rat LC50</u>
-				
Trade Secret : Cresol novolak resin	40-45			
Trade Secret : Diazonaphthoquinonesulfonic esters	<5			
Trade Secret : Cresol novolak resin	<5			

**TOXICITY HAZARD STATEMENTS FOR PRODUCT:**

## **SECTION 12. ECOLOGICAL INFORMATION**

### **Ingredient Ecological Toxicity Data:**

<u>Chemical Name &amp; CAS Number</u>	<u>Weight Percent</u>	<u>Fish LC50</u>	<u>Daphnia EC50</u>	<u>Algae IC50</u>
-				
1-Methoxy-2-propanol	40	>999 mg/L not hazardous by EC criteria	>1000 mg/L	
000107-98-2				
1-Methoxy-2-propanol acetate	10	161 mg/L	408 mg/L	
000108-65-6				
<u>Chemical Name &amp; CAS Number</u>	<u>Weight Percent</u>	<u>Fish LC50</u>	<u>Daphnia EC50</u>	<u>Algae IC50</u>
-				
Trade Secret : Cresol novolak resin	40-45			
Trade Secret : Diazonaphthoquinonesulfonic esters	<5			
Trade Secret : Cresol novolak resin	<5			

Environmental hazard information statements (using EU classification criteria):

### **SECTION 13. DISPOSAL CONSIDERATIONS**

**Disposal:**

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

### **SECTION 14. TRANSPORT INFORMATION**

**DOT/IATA Shipper Entry:**

Flammable liquid, n.o.s. (1-methoxy-2-propanol, 1-methoxy-2-propanol acetate), 3, UN1993, III.

### **SECTION 15. REGULATORY INFORMATION**

**TSCA Inventory Status:**

One or more components of this product are not listed on the TSCA Inventory. The components, however, are covered by Low Volume Exemptions.

**SARA Title III section 313:**

This product is not subject to SARA Title III Section 313 reporting requirements under 40CFR372.

**OSHA Physical Hazards:**

Flammable.

**OSHA Health Hazards:**

Eye Hazard. Irritant. Nervous System Toxin. Skin Hazard. Lung Toxin. Kidney Toxin. Liver Toxin.

**SARA (311, 312) Hazard Class(es):**

Acute health hazard. Fire hazard.

### **SECTION 16. OTHER INFORMATION**

**HMS Ratings:**

Health = 2; Flammability =3; Reactivity = 0; PPE=X

**NFPA Ratings:**

Health = 2; Flammability = 3; Reactivity =0; Special Hazard = None.

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