Dave Braddock 9/22/05

MATERIAL SAFETY DATA SHEET
AZ(R) 3318D PHOTORESIST (30 CPS)

AZ Electronic Materials

Substance key: BBG703P
Version *1*

REVISION DATE: 09/22/2005
Print Date: 09/22/2005

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® 3318D PHOTORESIST (30 CPS)**

Section 02 - Composition information

Hazardous ingredients:

Chemical Name	CAS-no. (Trade secret no.)	Concentration [%]
1-Methoxy-2-propanol acetate	108-65-6	45.00 - 50.00
Ethyl lactate	97-64-3	< 30.00
Aromatic hydroxy compound	67829000004-5654P	1.00

Non-hazardous ingredients:

Chemical Name	CAS-no. (Trade secret no.)	Concentration [%]
Cresol novolak resin	67829000004-5653P	< 25.00
Diazonaphthoquinonesulfonic ester	67829000004-5762P	< 10.00

Section 03 - Hazardous identification

Emergency overview: OSHA combustible liquid; DOT flammable liquid., Amber-red liquid with characteristic odor., Irritating on contact or inhalation., Partially dissolves in water leaving a floating viscous mass.

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 severe 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 and birth defects: Exposures having no adverse effect on the mother should have no effect on the fetus.

Ethyl lactate
Ethyl lactate is a skin, eye, and mucous membrane irritant.

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.

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

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 / Treatement: Administer oxygen if there is difficulty in breathing.

Section 05 - Fire fighting measures

Flash point: 116 °F
Method: closed cup

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.

Specific hazards during fire fighting: 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.

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 and protected from heat and light.
Pressure may build up slowly in closed containers due to gradual decomposition. This is accelerated by heat and light. May liberate combustible solvent vapors.

Section 08 - Exposure Control / personal protection

Respiratory protection:	Chemical cartridge respirator recommended for exposures exceeding TLV.
Hand protection:	For short-term exposure (splash protection): Nitrile rubber gloves.
Eye protection:	Safety eyewear to protect against splashes.
Skin and body protection:	Clothing suitable to prevent skin contact.
Other protective equipment:	Do not inhale vapours Avoid contact with eyes and skin Observe the usual precautions for handling chemicals.
Additional advice on system design:	Use local exhaust ventilation.

Section 09 - Physical and chemical properties

Form:	Liquid
Color:	Clear,amber-red
Odor:	Strong, characteristic odor.
Water solubility:	The solvent is water soluble but the product forms two layers.
Density:	1.059 g/cm3
Starts to boil:	134 °C
Evaporation number:	Reference substance: diethyl ether <
Vapor pressure:	1.7 Torr
Loss on drying:	73 %

Section 10 - Stability and reactivity

Hazardous reactions: Hazardous reactions: When handled and stored appropriately no dangerous reactions are known

Hazardous reactions: Stable.

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 - Toxiclogical information

Acute oral toxicity: Based on data from components this material is considered, not harmful (rat acute oral LD50 > 5000 mg/kg).

Acute inhalation toxicity

Based on data from components, this material is considered, not harmful (LC50 greater than 10,000 ppm or 200 mg/L), Based on component data, material is considered irritating to the respiratory tract.

Ethyl lactate
Acute oral toxicity: LD50 rat
> 5,000 mg/kg

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

Ethyl lactate
Acute inhalation toxicity LC50 rat
> 5400 mg/m3
Exposure time: 8 h

1-Methoxy-2-propanol acetate (108-65-6)
Acute inhalation toxicity LC50 rat
> 4350 ppm

Ethyl lactate
Acute dermal toxicity: LD50 rabbit
> 5,000 mg/kg

1-Methoxy-2-propanol acetate (108-65-6)
Acute dermal toxicity: LD50 rabbit
> 5,000 mg/kg

Section 12 - Ecological information

Ethyl lactate
Toxicity to fish: LC50
320 mg/l

1-Methoxy-2-propanol acetate (108-65-6)
Toxicity to fish: (Fathead minnow)
161 mg/l

Ethyl lactate
Toxicity of aquatic invertebrates: EC50 (Daphnia magna)
680 mg/l

1-Methoxy-2-propanol acetate (108-65-6)
Toxicity of aquatic invertebrates: (Daphnia magna)
400 mg/l

Ethyl lactate
Toxicity to algae : IC50
2,200 mg/l

Section 13 - Disposal considerations

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

Contaminated packaging: Packaging that cannot be cleaned should be disposed of as product waste

Section 14 - Transport information

Land transport

- *DOT:*
  Not restricted

Sea transport

- *IMDG:*

UN-No:	1993
Proper technical name:	FLAMMABLE LIQUID, N.O.S. contains (2-Methoxy-1-methyl ethyl acetate, Ethyl lactate)
Class:	3
Packaging group:	III
Marine pollutant:	
EmS:	F-E, S-E
MFAG:	
Labels:	3

Air transport

- *ICAO/IATA-DGR:*

UN/ID No.:	UN 1993
Proper technical name:	FLAMMABLE LIQUID, N.O.S. contains (2-Methoxy-1-methyl ethyl acetate, Ethyl lactate)
Class:	3
Packaging group:	III
Labels:	3

Section 15 - Regulatory information

TSCA Status: All components of this product are listed on the TSCA Inventory.

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.

Volatile organic compounds: Content VOC (g/l): 765 g/l
Method: calculated

Section 16 - Other information

Label information

CAUTION!

COMBUSTIBLE LIQUID AND VAPOR HARMFUL IF SWALLOWED, INHALED 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. Product must be kept refrigerated until use. Temperature range for refrigeration is 30 to 55 F (- 1 to 13 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.