



SAFETY DATA SHEET
AZ P4210 Photoresist

Substance No.: GHSBBG7099
Version 3.2

Revision Date 11/08/2011
Print Date 02/10/2012

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : AZ P4210 Photoresist
Material No. : 10490923159
Product Use Description : Intermediate for electronic industry

Company : AZ Electronic Materials USA Corp.
70 Meister Ave.
Somerville, NJ 08876

Telephone : 1-908-429-3562
Telefax : 1-908-429-5982

Emergency telephone number : 1-800-424-9300 (CHEMTREC)

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards : COMBUSTIBLE LIQUID AND VAPOUR;
IRRITANT

GHS Classification

Signal word : Warning

Hazard category, Hazard class : Flammable liquids, Category 3

Hazard category, Hazard class : Eye irritation, Category 2A

Hazard category, Hazard class : Specific target organ toxicity - single exposure, Category 3

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous ingredients

Component	CAS-No.	Weight percent
1-Methoxy-2-propanol acetate	108-65-6	65 - 70
Diazonaphthoquinonesulfonic esters	67829000004-6623P	1 - 5



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Non-hazardous ingredients

Component	CAS-No.	Weight percent
Cresol novolak resin	67829000004-5653P	25 - 30

SECTION 4. FIRST AID MEASURES

First aid procedures

- Inhalation : If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If symptoms persist, call a physician.
- Skin contact : Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention if irritation develops and persists.
- Eye contact : Remove contact lenses. Flush eyes with water at least 15 minutes. Get medical attention if eye irritation develops or persists.
- Ingestion : Keep respiratory tract clear. If **conscious**, drink plenty of water. Never give anything by mouth to an unconscious person. Obtain medical attention.

SECTION 5. FIRE-FIGHTING MEASURES

Flammable properties

- Flash point : 112 °F (44 °C)
Method: closed cup

Fire fighting

- Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
- Further information : In the event of fire, wear **self-contained breathing apparatus**. Use personal protective equipment. Cool containers / tanks with water spray.

Protective equipment and precautions for firefighters

- Specific hazards during fire : As the product contains combustible organic components, fire



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fighting : will produce dense black smoke containing hazardous products of combustion (see section 10).

SECTION 6. ACCIDENTAL RELEASE MEASURES

Environmental precautions : Do not allow entry to drains, water courses or soil
Prevent spreading by use of suitable barriers.
Local authorities should be advised if significant spillages cannot be contained.

Methods for containment /
Methods for cleaning up : 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

Handling : Do not breathe vapours or spray mist.
Do not get on skin or clothing.
For personal protection see section 8.
Use only in area provided with appropriate exhaust ventilation.

Advice on protection against
fire and explosion : Keep away from heat and sources of ignition.
Take measures to prevent the build up of electrostatic charge.
Avoid shock and friction.

Storage

Further information on
storage conditions : Keep container tightly closed in a dry and well-ventilated place.
May liberate combustible solvent vapors.
Store at appropriate temperature. See label for details.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Components with workplace control parameters

Components	CAS-No.	Control parameters	Basis
1-Methoxy-2-propanol acetate	108-65-6	TWA: 50 ppm	US WEEL

Engineering measures



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Engineering measures : Handle only in a place equipped with local exhaust (or other appropriate exhaust).

Personal protective equipment

Eye protection : Safety eyewear to protect against splashes.

Hand protection : Solvent-resistant gloves

Skin and body protection : Clothing suitable to prevent skin contact.

Respiratory protection : In the case of vapour formation use a respirator with an approved filter.
Respirator with filter for organic vapour
Use NIOSH approved respiratory protection.

Hygiene measures : Observe the usual precautions when handling chemicals.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form : Liquid
Color : Clear, amber-red
Odor : Strong, characteristic odor.

Safety data

Flash point : 112 °F (44 °C)
Method: closed cup
Starts to boil : 293 °F (145 °C)
Vapour pressure : 3.2 Torr
at 68 °F (20 °C)
Density : ca. 1 g/cm³
at 68 °F (20 °C)
Water solubility : The solvent is partially water soluble but the product forms two layers.
VOC : 685 g/l (Calculated value)
Loss on drying : < 70 %



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SECTION 10. STABILITY AND REACTIVITY

- Conditions to avoid : Avoid contact with oxidizing agents.
Avoid contact with strong acids.
Avoid contact with alkaline materials.
- Hazardous decomposition products : Hazardous decomposition products due to incomplete combustion.
Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke).
- Hazardous reactions : Hazardous polymerisation does not occur.
- Chemical stability : Stable under normal conditions.

SECTION 11. TOXICOLOGICAL INFORMATION

Data for AZ P4210 Photoresist

- Further information : No toxicological testing was carried out on the preparation.

Data for 1-Methoxy-2-propanol acetate (108-65-6)

- Acute oral toxicity : LD50: 8,532 mg/kg
Species: rat
- Acute inhalation toxicity : LC50: > 23.8 mg/l
Exposure time: 6 h
Species: rat
- Acute dermal toxicity : LD50: > 5,000 mg/kg
Species: rabbit
- Skin irritation : Result: non-irritant
- Eye irritation : Result: Mild eye irritation
- Sensitisation : Species: Guinea pig
Result: non-sensitizing



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Data for Diazonaphthoquinonesulfonic esters (67829000004-5546P)

- Acute oral toxicity : LD50 Oral: > 5,000 mg/kg
Species: rat
By analogy with a similar product.
- Skin irritation : Species: rabbit
Result: No skin irritation
- Eye irritation : Species: rabbit
Result: slight irritant effect - does not require labelling
Classification: not irritating

12. ECOLOGICAL INFORMATION

Data for AZ P4210 Photoresist

- Additional ecological information : No ecological testing was carried out on the preparation.

Data for 1-Methoxy-2-propanol acetate (108-65-6)

Ecotoxicity effects

- Toxicity to fish : LC50: 100 - 180 mg/l Exposure time: 96 h
Species: *Oncorhynchus mykiss*
- : LC50: 161 mg/l Exposure time: 96 h
Species: Fish general (Pisces)
- : NOEC: 100 mg/l Exposure time: 96 h
Species: Fish general (Pisces)
- Toxicity to daphnia and other aquatic invertebrates. : EC50: > 500 mg/l
Species: *Daphnia magna*
- Toxicity to bacteria : EC20: 1,000 mg/l
Exposure time: 30 min
Species: activated sludge



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Elimination information (persistence and degradability)

Biodegradability : Method: OECD 302 B
: The product is biodegradable.

Data for Diazonaphthoquinonesulfonic esters (67829000004-5546P)

Ecotoxicity effects

Toxicity to fish : LC50: 20 - 50 mg/l Exposure time: 96 h
Species: Danio rerio (zebra fish)
By analogy with a similar product.

Toxicity to bacteria : EC50: > 1,000 mg/l
Method: OECD 209

Elimination information (persistence and degradability)

Biodegradability : Result: not degradable
Method: OECD 301 D

Further information on ecology

Chemical Oxygen Demand (COD) : 1.716 mg/g

SECTION 13. DISPOSAL CONSIDERATIONS

Further information : Dispose of as hazardous waste in compliance with local and national regulations.
For disposal, this material is a flammable hazardous waste under RCRA.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.

RCRA hazardous waste : RCRA number: D001
Yes -- If it becomes a waste as sold.



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SECTION 14. TRANSPORT INFORMATION

DOT

Not restricted

IATA

UN number : 1993
Description of the goods : Flammable liquid, n.o.s.
(2-Methoxy-1-methylethyl acetate)
Class : 3
Packing group : III
Labels : 3
Environmentally hazardous : no
Additional data for transport : PASSENGER AIRCRAFT SHIPMENT OF GLASS
CONTAINERS >2.5L NOT PERMITTED. CARGO AIRCRAFT
ONLY!

IMDG

UN number : 1993
Description of the goods : FLAMMABLE LIQUID, N.O.S.
(2-Methoxy-1-methylethyl acetate)
Class : 3
Packing group : III
Labels : 3
EmS Number 1 : F-E
EmS Number 2 : S-E
Marine pollutant : no
Environmentally hazardous : no

SECTION 15. REGULATORY INFORMATION

Notification status

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

DSL : All components of this product are on the Canadian DSL list.

WHMIS Classification : B3: Combustible Liquid



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Canadian PBT Chemicals : This product does not contain any components on the DSL that are classified as Persistent, Bioaccumulative and Toxic (PBT) under CEPA.

CERCLA Reportable Quantity :
This material does not contain any components with a CERCLA RQ.

Carcinogenicity

IARC : No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA : No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

NTP : No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

ACGIH : No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

EPCRA - Emergency Planning and Community Right-to-Know Act

SARA 302 Reportable Quantity : SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 304 Extremely Hazardous Substances : This material does not contain any components with a section 304 EHS RQ.

SARA 313: SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

Ozone-Depletion Potential : This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

US. Clean Air Act - Hazardous Air Pollutants (HAP)

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 12 (40 CFR 61).



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US. Clean Air Act Section 112(r); Regulated toxic and flammable substances for Accidental Release Prevention - 40 CFR 68.130 (subpart F)

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

US. Clean Air Act Section 111 SOCMl Intermediate or Final Volatile Organic Compunds (VOC) - 40 CFR part 60.489

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMl Intermediate or Final VOC's (40 CFR 60.489).

Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

US State Regulations

Massachusetts Right To Know Components	:	No components are subject to the Massachusetts Right to Know Act.
Pennsylvania Right To Know Components	:	1-Methoxy-2-propanol acetate 108-65-6 Cresol novolak resin 67829000004-5653P Diazonaphthoquinonesulfonic esters 67829000004-6623P
New Jersey Right To Know Components	:	1-Methoxy-2-propanol acetate 108-65-6 Cresol novolak resin 67829000004-5653P Diazonaphthoquinonesulfonic esters 67829000004-6623P
California Prop. 65 Components	:	This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.



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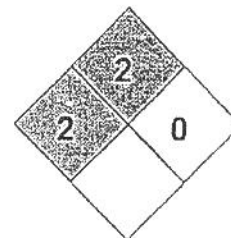
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SECTION 16. OTHER INFORMATION

Further information

HMIS Classification : Health hazard: 2
Flammability: 2
Reactivity: 0
PPE:X

NFPA Classification : Health hazard: 2
Fire Hazard: 2
Reactivity Hazard: 0
Special Hazards: NONE



GHS-Labelling

Symbol(s)



Signal word

: Warning

Hazard statements

: Flammable liquid and vapour.
Causes eye irritation.
May cause respiratory irritation.
May cause drowsiness or dizziness.

Precautionary statements

: **Prevention:**
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Keep container tightly closed.
Ground/bond container and receiving equipment.
Use explosion-proof electrical/ ventilating/ lighting/ equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
Wash skin thoroughly after handling.
Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.



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IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

IF exposed or if you feel unwell:

Get medical advice/ attention.

In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

Storage:

Store in a well-ventilated place. Keep cool.

Store in a closed container.

Disposal:

Dispose of contents/ container to an approved waste disposal plant.

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.

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