SAFETY DATA SHEET
AZ 125nXT-10A Photoresist
Substance No.: GHS000502238
Version 3.3

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : AZ 125nXT-10A Photoresist
Material No. : 21286423159
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. CAUSES EYE BURNS. MAY CAUSE SKIN SENSITIZATION.

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 Classification
Hazard category, Hazard class : Flammable liquids, Category 3
Hazard category, Hazard class
Skin Irritation, Category 2
Skin sensitization, Sub-category 1B
Serious eye damage, Category 1
Specific target organ toxicity - single exposure, Category 3
Chronic aquatic toxicity, Category 3

GHS-Labelling

Signal word
Danger

Hazard statements
Flammable liquid and vapour.
Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye damage.
May cause respiratory irritation, and drowsiness or dizziness.
Harmful to aquatic life with long lasting effects.

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.
Contaminated work clothing should not be allowed out of the workplace.
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.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER or doctor/ physician.
If skin irritation or rash occurs: Get medical advice/ attention.
Take off contaminated clothing and wash before reuse.
In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

**Storage:**
Store in a well-ventilated place. Keep cool.

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

Special labelling of certain mixtures:
The following percentage of the mixture consists of ingredient(s) with unknown acute toxicity: 72%

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**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

**Hazardous ingredients**

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Weight percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Methoxy-2-propanol acetate</td>
<td>108-65-6</td>
<td>20 - 25</td>
</tr>
<tr>
<td>Modified diacylate</td>
<td>NJTSRNSR268</td>
<td>10 - 15</td>
</tr>
<tr>
<td>Phenone derivative</td>
<td>678290000004-5905P</td>
<td>1 - 5</td>
</tr>
<tr>
<td>Triarylphosphine oxide</td>
<td>678290000004-5975P</td>
<td>&lt;= 2</td>
</tr>
</tbody>
</table>

**Non-hazardous ingredients**

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Weight percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modified phenolic resin</td>
<td>678290000004-8161P</td>
<td>25 - 30</td>
</tr>
<tr>
<td>Methacrylate Monomer</td>
<td>678290000004-8162P</td>
<td>20 - 25</td>
</tr>
<tr>
<td>Modified phenolic resin</td>
<td>678290000004-6238P</td>
<td>5 - 10</td>
</tr>
</tbody>
</table>

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**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.
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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. FIREFIGHTING MEASURES

Flammable properties
Flash point : app. 106 °F (41 °C)

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 firefighting : As the product contains combustible organic components, fire 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
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Revision Date 09/17/2012
Print Date 01/03/2013

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

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Control parameters</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Methoxy-2-propanol acetate</td>
<td>108-65-6</td>
<td>TWA: 50 ppm</td>
<td>US WEEL</td>
</tr>
<tr>
<td>Modified diacylate</td>
<td>NUTSRNSR266</td>
<td>TWA: 1 mg/m3</td>
<td></td>
</tr>
</tbody>
</table>

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, colorless to pale yellow
Odor : characteristic

Safety data
Flash point : app. 106 °F (41 °C)
Vapour pressure : 3.2 Torr
at 68 °F (20 °C)
Density : 1.07 g/cm³
Water solubility : The solvent is partially water soluble but the product forms two layers.
VOC : 240 g/l (Calculated value)
Loss on drying : < 25 %

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. TOXICOCLOGICAL INFORMATION

Data for AZ 125nXT-10A Photoresist

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

Data for Modified diacrylate (NJTSRNSR268)

Skin irritation : Result: Severe skin irritation

Eye irritation : Result: corrosive

Sensitisation : May cause sensitization of susceptible persons.

Repeated dose toxicity : Species: mouse
                        Application Route: Dermal
                        Exposure time: 18 month ()
                        Weak carcinogenic response

Data for Phenone derivative (67829000004-5905P)

Acute oral toxicity : LD50: > 1,800 mg/kg
                     Species: rat
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Acute dermal toxicity : LD50: > 2,000 mg/kg
Species: rat

Skin irritation : Species: rabbit
Result: No skin irritation
Method: OECD Test Guideline 404

Eye irritation : Species: rabbit
Result: No eye irritation
Method: OECD Test Guideline 405

Sensitisation : Maximisation Test
Species: guinea pig
Result: Did not cause sensitization on laboratory animals.
Method: OECD Test Guideline 406

Data for Triarylphosphine oxide (67829000004-5975P)

Acute oral toxicity : LD50 Oral: > 2,000 mg/kg
Species: rat

Acute dermal toxicity : LD50 Dermal: > 2,000 mg/kg
Species: rat

Skin irritation : Species: rabbit
Result: No skin irritation

Eye irritation : Species: rabbit
Result: No eye irritation

Sensitisation : Species: guinea pig
Classification: May cause sensitization by skin contact.
Result: sensitizing

Repeated dose toxicity : Species: rat
Application Route: Oral
Dose: 15, 150, 1000 mg/kg/day
Exposure time: 28 day (~)
NOEL: 1,000 mg/kg
12. ECOLOGICAL INFORMATION

Data for AZ 125nXT-10A 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 (rainbow trout)

: 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

Elimination information (persistence and degradability)

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

Data for Phenone derivative (67829000004-5905P)

Ecotoxicity effects
Toxicity to fish: LC50: 9 mg/l
  Species: Brachydanio rerio
  Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates: EC50: 15.3 mg/l
  Species: Daphnia magna
  Method: OECD Test Guideline 202

Toxicity to algae: 1.7 mg/l
  Species: Scenedesmus subspicatus

Toxicity to bacteria: IC50: > 100 mg/l
  Species: activated sludge

Elimination information (persistence and degradability)

Biodegradability: aerobic
  Method: OECD 301 B
  Not biodegradable according to OECD 301 (not readily biodegradable)

Data for Triarylphosphine oxide (67829000004-5975P)

Ecotoxicity effects

Toxicity to fish: LC50: > 0.09 mg/l Exposure time: 96 h
  Species: Danio rerio (zebra fish)
  Not toxic at the maximum solubility in test medium.

Toxicity to daphnia and other aquatic invertebrates: EC50: > 1.175 mg/l
  Exposure time: 48 h
  Species: Daphnia magna (Water flea)
  Not toxic at the maximum solubility in test medium.

Toxicity to algae: EC50: > 0.26 mg/l
  Exposure time: 72 h
  Species: Scenedesmus subspicatus
  Not toxic at the maximum solubility in test medium.
Toxicity to bacteria: EC50: > 100 mg/l
Species: activated sludge of a predominantly domestic sewage

Elimination information (persistence and degradability)
Bioaccumulation: Species: Cyprinus carpio (Carp)
Bioconcentration factor (BCF): < 5

Biodegradability: Method: Modified Sturm Test
Not Biodegradable

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.

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
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 : 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.

DSL : This product contains one or several components that are not on the Canadian DSL nor NDSL.

WHMIS Classification : B3: Combustible Liquid
D2B: Toxic Material Causing Other Toxic Effects
E: Corrosive Material

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.
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).

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 SOCMI 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 SOCMI 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 | | Modified phenolic resin 67829000004-6161P |
| | | 1-Methoxy-2-propanol acetate 108-65-6 |
| | | Methacrylate Monomer 67829000004-6162P |
| | | Modified diacrylate NJTSRNSR268 |
| | | Modified phenolic resin 67829000004-6238P |
| | | Phenone derivative 67829000004-5905P |
| | | Triarylphosphine oxide 67829000004-5975P |
| New Jersey Right To Know Components | | Modified phenolic resin 67829000004-6161P |
| | | 1-Methoxy-2-propanol acetate 108-65-6 |
| | | Methacrylate Monomer 67829000004-6162P |
| | | Modified diacrylate NJTSRNSR268 |
| | | Modified phenolic resin 67829000004-6238P |
| | | Phenone derivative 67829000004-5905P |
| | | Triarylphosphine oxide 67829000004-5975P |
| 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. |
| Other Regulatory Information: | Remarks: | This product is subject to the Export and Customs Control |
Regulations of the United States and is not to be exported or transferred without prior notification and approval by AZ Electronic Materials USA Corp and obtaining proper U.S.A. and local government authorizations.
ECCN 3C992

SECTION 16. OTHER INFORMATION

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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