

AZ 12XT-20PL-10 PhotoresistVersion
1.5Revision Date:
27.12.2019SDS Number:
70MDGM212914**SECTION 1. IDENTIFICATION****Product identifier**

Product name : AZ 12XT-20PL-10 Photoresist

Product number : 212914

Recommended use of the chemical and restrictions on use

Recommended use : Intermediate for electronic industry

Details of the supplier of the safety data sheetCompany : EMD Performance Materials, an Affiliate of Merck KGaA,
Darmstadt, Germany, 1200 Intrepid Avenue, Suite 300,
Philadelphia, PA 19112, 1-888-367-3275,
www.emdgroup.com/electronicsEmergency telephone : 1-800-424-9300 CHEMTREC (USA)
1-703-741-5970 CHEMTREC (International)
24 Hours/day; 7 Days/week**SECTION 2. HAZARDS IDENTIFICATION****GHS Classification**

Flammable liquids : Category 3

Specific target organ toxicity : Category 3 (Central nervous system)
- single exposure**GHS label elements**

Hazard pictograms :



Signal Word : Warning

Hazard Statements : H226 Flammable liquid and vapor.
H336 May cause drowsiness or dizziness.

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Precautionary Statements

:

Prevention:

P210 Keep away from heat/ sparks/ open flames/ hot surfaces.
No smoking.
P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/ eye protection/ face protection.

Response:

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.
P370 + P378 In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide to extinguish.

Storage:

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture

: Mixture

Chemical nature

Photoresist

Hazardous ingredients

Chemical name	Concentration (% w/w)	CAS-No.
1-Methoxy-2-propanol acetate	>= 50 - < 70	108-65-6

SECTION 4. FIRST AID MEASURES

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If inhaled	:	fresh air. Call in physician.
In case of skin contact	:	rinse out with polyethylene glycol 400 or a mixture of polyethylene glycol 300/ethanol 2:1 and wash with plenty of water. If neither is available wash with plenty of water. Immediately take off contaminated clothing. Seek medical advice immediately.
In case of eye contact	:	Rinse out with plenty of water. Remove contact lenses.
If swallowed	:	immediately make victim drink water (two glasses at most). Consult a physician.
Most important symptoms and effects, both acute and delayed	:	somnolence Drowsiness
Notes to physician	:	No information available.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	Water Foam Carbon dioxide (CO ₂) Dry powder
Unsuitable extinguishing media	:	For this substance/mixture no limitations of extinguishing agents are given.
Specific hazards during fire fighting	:	Combustible. Vapors are heavier than air and may spread along floors. Forms explosive mixtures with air at elevated temperatures. Development of hazardous combustion gases or vapors possible in the event of fire.
Further information	:	Cool closed containers exposed to fire with water spray. Prevent fire extinguishing water from contaminating surface water or the ground water system. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Special protective equipment for fire-fighters	:	In the event of fire, wear self-contained breathing apparatus. Well closed full protective clothing (coat and pants) including helmet.

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SECTION 6. ACCIDENTAL RELEASE MEASURES

- | | | |
|---|---|--|
| Personal precautions,
protective equipment and
emergency procedures | : | Advice for non-emergency personnel:
Do not breathe vapors, aerosols.
Avoid substance contact.
Ensure adequate ventilation.
Keep away from heat and sources of ignition.
Evacuate the danger area, observe emergency procedures,
consult an expert.
Advice for emergency responders:
Protective equipment see section 8.
Indications about waste treatment see section 13. |
| Environmental precautions | : | Do not flush into surface water or sanitary sewer system.
Risk of explosion. |
| Methods and materials for
containment and cleaning up | : | Cover drains. Collect, bind, and pump off spills.
Observe possible material restrictions (see sections 7 and 10).
Take up with liquid-absorbent material (e.g. Chemisorb®).
Dispose of properly. Clean up affected area. |

SECTION 7. HANDLING AND STORAGE**Precautions for safe handling**

- | | | |
|--|---|---|
| Advice on protection against
fire and explosion | : | Keep away from open flames, hot surfaces and sources of
ignition. Take precautionary measures against static
discharge.

Do not pressurise, cut, weld, braze, solder, drill, or grind on
containers. |
| Advice on safe handling | : | Provide sufficient air exchange and/or exhaust in work rooms.
Do not inhale substance/mixture.
Avoid generation of vapors/aerosols.
Keep away from fire (No Smoking).
Observe label precautions. |

Conditions for safe storage, including any incompatibilities

- | | | |
|-----------------------------|---|--|
| Conditions for safe storage | : | Store in original container.
Keep tightly closed in a dry, cool and well-ventilated place. |
| Storage conditions | : | Keep container tightly closed in a dry and well-ventilated
place.
Keep away from heat and sources of ignition. |

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Risks from decomposition products: see section 10

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
1-Methoxy-2-propanol acetate	108-65-6	TWA	50 ppm	US WEEL

Engineering measures : Handle only in a place equipped with local exhaust (or other appropriate exhaust).
Ensure that eye flushing systems and safety showers are located close to the working place.
Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.
See section 7.

Personal protective equipment

Respiratory protection : required when vapors/aerosols are generated.

Hand protection

Additional Protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products.

Protective measures : Flame retardant antistatic protective clothing.

Eye protection : Safety glasses

Body Protection : Protective clothing

Hygiene measures : Change contaminated clothing. Wash hands after working with substance.
Avoid contact with skin, eyes and clothing.
Wash hands and face before breaks and immediately after handling the product.
Keep away from food and drink.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state : liquid

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Form	liquid
Color	clear amber red
Odor	strong characteristic
Odor Threshold	No information available.
pH	Not applicable
Melting point	No information available.
Boiling point/boiling range	ca. 273 °F (134 °C)
Flash point	> 100 °F (38 °C)
Evaporation rate	No information available.
Flammability (solid, gas)	Not applicable
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapor pressure	3.2 Torr at 68 °F (20 °C)
Relative vapor density	No information available.
Density	1.07 g/cm3 at 68 °F (20 °C) 1.052 g/cm3 at 77 °F (25 °C)
Relative density	No information available.
Water solubility	partly soluble - phase separation
Partition coefficient: n-octanol/water	No information available.
Autoignition temperature	No information available.
Decomposition temperature	No information available.

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Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	none

SECTION 10. STABILITY AND REACTIVITY

Reactivity	: Vapor/air-mixtures are explosive at intense warming.
Chemical stability	: The product is chemically stable under standard ambient conditions (room temperature) .
Possibility of hazardous reactions	: Reacts with the following substances: Strong acids Oxidizing agents alkaline substances Hydrolyzes in presence of: Strong acids and strong bases Hazardous polymerization does not occur.
Conditions to avoid	: Heating. Keep away from open flames, hot surfaces and sources of ignition. Extremes of temperature and direct sunlight.
Incompatible materials	: Strong acids and oxidizing agents
Hazardous decomposition products	: Hazardous decomposition products due to incomplete combustion Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke).

SECTION 11. TOXICOLOGICAL INFORMATION**Information on toxicological effects****Product**

Carcinogenicity

IARC

No ingredient 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 on OSHA's list of regulated carcinogens.

NTP

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

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Likely route of exposure

Inhalation, Eye contact, Skin contact

Acute dermal toxicity

Acute toxicity estimate: 4,354 mg/kg

Calculation method

Eye irritation

Mixture causes serious eye irritation.

*CMR effects***Experience with human exposure**

STOT-single exposure

Target Organs: Respiratory system

Assessment: Mixture may cause respiratory irritation.

Target Organs: Central nervous system

Assessment: Mixture may cause drowsiness or dizziness.

Other Relevant Toxicity Information:

No toxicological testing was carried out on the preparation.

Other dangerous properties can not be excluded., Handle in accordance with good industrial hygiene and safety practice.

Other dangerous properties can not be excluded., Handle in accordance with good industrial hygiene and safety practice.

Components*1-Methoxy-2-propanol acetate (108-65-6):**Acute oral toxicity*

LD50 Rat: 6,190 mg/kg

OECD Test Guideline 401(ECHA)

Acute inhalation toxicity

LC50 Rat: 23.4 mg/l; vapor (OECD SIDS)

Acute dermal toxicity

LD50 Rat: > 2,000 mg/kg

OECD Test Guideline 402 (ECHA)

Skin irritation

Rabbit

Result: No skin irritation

OECD Test Guideline 404
(ECHA)

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Eye irritation

Rabbit

Result: No eye irritation

OECD Test Guideline 405

(ECHA)

Sensitization

Maximization Test Guinea pig

Result: Does not cause skin sensitization.

Method: OECD Test Guideline 406

(ECHA)

Repeated dose toxicity

Rat

male and female

Oral

44 d

daily

NOAEL: $\geq 1,000$ mg/kg

OECD Test Guideline 422

(ECHA), Subacute toxicity

Germ cell mutagenicity

Genotoxicity in vitro

Ames test

Salmonella typhimurium

Result: negative

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

(ECHA)

Teratogenicity

Application Route: Inhalation

Rat

Number of exposures: daily

Test period: 21 d

Method: OECD Test Guideline 414

(ECHA)

STOT-single exposure

Assessment: May cause drowsiness or dizziness.

Remarks: (ECHA)

SECTION 12. ECOLOGICAL INFORMATION**Ecotoxicity****Product****Persistence and degradability**

No information available.

Bioaccumulative potential

No information available.

Mobility in soil

No information available.

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Additional ecological information

No ecological testing was carried out on the preparation.
Discharge into the environment must be avoided.

Components*1-Methoxy-2-propanol acetate (108-65-6):**Toxicity to fish*

static test LC50 Oncorhynchus mykiss (rainbow trout): 134 mg/l; 96 h
OECD Test Guideline 203 (ECHA)

Toxicity to daphnia and other aquatic invertebrates

static test EC50 Daphnia magna (Water flea): 408 mg/l; 48 h
OECD Test Guideline 202 (ECHA)

Toxicity to algae

static test NOEC Pseudokirchneriella subcapitata (green algae): > 1,000 mg/l; 96 h
Analytical monitoring: yes
OECD Test Guideline 201 (ECHA)

static test ErC50 Pseudokirchneriella subcapitata (green algae): > 1,000 mg/l; 96 h
Analytical monitoring: yes
OECD Test Guideline 201 (ECHA)

Toxicity to bacteria

static test EC10 activated sludge: > 1,000 mg/l; 30 min
OECD Test Guideline 209 (ECHA)

static test EC20 activated sludge: > 1,000 mg/l; 30 min
OECD Test Guideline 209 (ECHA)

Toxicity to fish (Chronic toxicity)

flow-through test NOEC Oryzias latipes (Orange-red killifish): 47.5 mg/l; 14 d

Analytical monitoring: yes
OECD Test Guideline 204 (ECHA)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)

semi-static test NOEC Daphnia magna (Water flea): >= 100 mg/l; 21 d

Analytical monitoring: yes

OECD Test Guideline 211 (ECHA)

Biodegradability

83 %; 28 d; aerobic
OECD Test Guideline 301F
(ECHA)
Readily biodegradable.

Biochemical Oxygen Demand (BOD)

330 mg/g (5 d)
(IUCLID)

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Chemical Oxygen Demand (COD)
1,740 mg/g
(IUCLID)

Theoretical oxygen demand (ThOD)
1,820 mg/g
(IUCLID)

Partition coefficient: n-octanol/water
log Pow: 1.2 (20 °C)
OECD Test Guideline 117
Bioaccumulation is not expected. (ECHA)

Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

SECTION 13. DISPOSAL CONSIDERATIONS

Product Waste : Waste material must be disposed of in accordance with national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

SECTION 14. TRANSPORT INFORMATION**DOT / 49CFR**

UN/ID/NA number : UN 1993
Proper shipping name : Flammable liquids, n.o.s.
(2-methoxy-1-methylethyl acetate)
Class : 3
Packing group : III
Labels : FLAMMABLE LIQUID
ERG Code : 128
Marine pollutant : no
Remarks : LTD QTY =< 5 L net capacity, as per 49 CFR 173.150,
Combustible Liquid if flash point >= 38 °C (100 °F), as per 49
CFR.173.150(f)

International Regulations**IATA-DGR**

UN/ID No. : UN 1993
Proper shipping name : Flammable liquid, n.o.s.
(2-methoxy-1-methylethyl acetate)
Class : 3
Packing group : III
Labels : Flammable Liquids
Packing instruction (cargo) : 366

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70MDGM212914aircraft)
Packing instruction
(passenger aircraft)

: 355

IMDG-Code

UN number : UN 1993
Proper shipping name : FLAMMABLE LIQUID, N.O.S.
(2-methoxy-1-methylethyl acetate)
Class : 3
Packing group : III
Labels : 3
EmS Code : F-E, S-E
Marine pollutant : no

Special precautions for user

Not applicable

SECTION 15. REGULATORY INFORMATION**EPCRA - Emergency Planning and Community Right-to-Know****CERCLA Reportable Quantity**

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

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 302

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

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

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).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

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).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCM I 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.

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This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

US State Regulations

Massachusetts Right To Know

No components are subject to the Massachusetts Right to Know Act.

California Prop. 65

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

The ingredients of this product are reported in the following inventories:

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

TSCA : All chemical substances in this product are either listed on the TSCA Active Inventory, covered by Low Volume Exemption (LVE), or other TSCA exemption.

SECTION 16. OTHER INFORMATION

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.