

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Version: 2.0

Product number: 212871

Revision Date: 17.03.2020

Print Date: 18.03.2020

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product number 212871

Product name AZ 12XT-20PL-15 Photoresist

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses Materials for use in technical applications

1.3 Details of the supplier of the safety data sheet

Company Merck KGaA * 64271 Darmstadt * Germany * Phone:+49 6151 72-0
Responsible Department PM-OQR * e-mail: PM_SDS_Supply@merckgroup.com

1.4 Emergency telephone number

Please contact the regional company representation in your country.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture



Classification (REGULATION (EC) No 1272/2008)

Flammable liquids, Category 3 H226: Flammable liquid and vapour.

Specific target organ toxicity - single exposure, Category 3, Central nervous system H336: May cause drowsiness or dizziness.
Calculation method

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :  

Signal word : Warning

Hazard statements : H226 Flammable liquid and vapour.
H336 May cause drowsiness or dizziness.

Precautionary statements : **Prevention:**
P210 Keep away from heat.

Hazardous components which must be listed on the label:

The Safety Data Sheets for catalogue items are available at www.merck-performance-materials.com

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1-Methoxy-2-propanol acetate

Reduced Labelling (<= 125 ml)

Hazard pictograms



Signal word
Warning

2.3 Other hazards

None known.

SECTION 3: Composition/information on ingredients

Chemical nature : Mixture of organic compounds

3.1 Substance

Not applicable

3.2 Mixtures

Hazardous components

Chemical name	CAS-No. Registration number	Classification	Concentration (% w/w)
Substances with a workplace exposure limit			
1-Methoxy-2-propanol acetate	108-65-6 01-2119475791-29- xxxx	Flam. Liq. 3; H226 STOT SE 3; H336	>= 50 - <= 100

SECTION 4: First aid measures

4.1 Description of first aid measures

- 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.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : somnolence

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Drowsiness

Nausea
Vomiting
Headache
Unconsciousness
narcosis
Cyanosis

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : No information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Water
Foam
Carbon dioxide (CO₂)
Dry powder

Unsuitable extinguishing media : For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting : Combustible.

Vapours are heavier than air and may spread along floors.
Forms explosive mixtures with air at elevated temperatures.
Development of hazardous combustion gases or vapours possible in the event of fire.

5.3 Advice for firefighters

Special protective equipment for firefighters : Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Further information : Cool closed containers exposed to fire with water spray.
Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Advice for non-emergency personnel:
Do not breathe vapours, aerosols.
Avoid substance contact.

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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.

6.2 Environmental precautions

Environmental precautions : Do not flush into surface water or sanitary sewer system.
Risk of explosion.

6.3 Methods and material for containment and cleaning up

Methods for 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.

6.4 Reference to other sections

Indications about waste treatment see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling : Provide sufficient air exchange and/or exhaust in work rooms.
Do not inhale substance/mixture.
Avoid generation of vapours/aerosols.

Observe label precautions.

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

Hygiene measures : Change contaminated clothing. Wash hands after working with substance.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Store in original container.

Further information on storage conditions : Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition. Protected from light.

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition.

Risks from decomposition products: see section 10.3

Recommended storage : Recommended storage temperature see product label.

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temperature

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

8.2 Exposure controls

Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

Personal protective equipment

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled and must meet the specifications of a standard EN/ISO/DIN. The chemical resistance of the protective equipment should be enquired at the respective supplier.

Eye protection : Safety glasses

Hand protection :

splash contact

Glove material : Nitrile rubber

Glove thickness : 0,4 mm

Break through time : 10 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example:KCL 730 Camatril® -Velours(splash contact);.

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Protective measures : Flame retardant antistatic protective clothing.

Recommended Filter type: : ABEK-filter

Respiratory protection : required when vapours/aerosols are generated.

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

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Environmental exposure controls

General advice : Do not flush into surface water or sanitary sewer system.
Risk of explosion.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form	liquid
Colour	yellow-orange
Odour	characteristic pungent
Odour Threshold	No information available.
pH	Not applicable
Melting point	No information available.
Boiling point	No information available.
Flash point	51 °C Test Type: Tag closed cup Method: KS M 2010:2008
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapour pressure	No information available.
Relative vapour density	No information available.
Density	1,06 g/cm ³ at 25 °C
Solubility(ies)	No information available.
Water solubility	partly soluble - phase separation
Partition coefficient: n-octanol/water	No information available.
Auto-ignition temperature	382 °C
Decomposition temperature	No information available.

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Viscosity, kinematic	ca. 1415 cSt at 25 °C
Explosive properties	Not classified as explosive.
Oxidizing properties	none

9.2 Other data

Viscosity, dynamic	ca. 1.500 cP at 25 °C
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SECTION 10: Stability and reactivity

10.1 Reactivity

Vapour/air-mixtures are explosive at intense warming.

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

10.3 Possibility of hazardous reactions

Hazardous reactions	: Risk of ignition or formation of inflammable gases or vapours with: Oxidizing agents
	Violent reactions possible with: alkalines Peroxides Strong oxidizing agents Acid anhydrides acid halides Acids

10.4 Conditions to avoid

Conditions to avoid	: Heating.
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10.5 Incompatible materials

Materials to avoid	: no information available
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10.6 Hazardous decomposition products

in the event of fire: See section 5.

SECTION 11: Toxicological information

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11.1 Information on toxicological effects

Acute toxicity

Product:

Acute oral toxicity : No data available
Acute inhalation toxicity : No data available
Acute dermal toxicity : No data available

Components:

1-Methoxy-2-propanol acetate:

Acute oral toxicity : LD50 (Rat, male and female): 6.190 mg/kg
Method: OECD Test Guideline 401
Remarks: (ECHA)

Acute inhalation toxicity : LC50 (Rat): 23,4 mg/l
Test atmosphere: vapour
Remarks: (OECD SIDS)

Acute dermal toxicity : LD50 (Rat, male and female): > 2.000 mg/kg
Method: OECD Test Guideline 402
Remarks: (ECHA)

Skin corrosion/irritation

Product:

No data available

Components:

1-Methoxy-2-propanol acetate:

Species: Rabbit
Exposure time: 24 h
Method: OECD Test Guideline 404
Result: No skin irritation
Remarks: (ECHA)

Serious eye damage/eye irritation

Product:

No data available

Components:

1-Methoxy-2-propanol acetate:

Species: Rabbit
Method: OECD Test Guideline 405
Result: No eye irritation
Remarks: (ECHA)

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Respiratory or skin sensitisation

Product:

No data available

Components:

1-Methoxy-2-propanol acetate:

Test Type: Maximisation Test

Exposure routes: dermal

Species: Guinea pig

Method: OECD Test Guideline 406

Result: Does not cause skin sensitisation.

Remarks: (ECHA)

Germ cell mutagenicity

Product:

No data available

Components:

1-Methoxy-2-propanol acetate:

Genotoxicity in vitro : Test Type: Ames test
Test system: Salmonella typhimurium
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative
Remarks: (ECHA)

Carcinogenicity

Product:

This information is not available.

Components:

This information is not available.

Reproductive toxicity

Product:

No data available

Components:

1-Methoxy-2-propanol acetate:

Effects on fertility : No data available
Effects on foetal development : Species: Rat, female
Application Route: Inhalation
General Toxicity Maternal: NOAEL: 2,7 mg/l
Teratogenicity: NOAEL: > 22,5 mg/l
Method: OECD Test Guideline 414
Remarks: (ECHA)

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STOT - single exposure

Product:

No data available

Components:

1-Methoxy-2-propanol acetate:

Assessment: May cause drowsiness or dizziness.

Remarks: (ECHA)

STOT - repeated exposure

Product:

No data available

Components:

No data available

Repeated dose toxicity

Product:

No data available

Components:

1-Methoxy-2-propanol acetate:

Species: Rat, male and female

NOAEL: ≥ 1.000 mg/kg

Application Route: Oral

Exposure time: 44 d

Number of exposures: daily

Method: OECD Test Guideline 422

Remarks: (ECHA)

Subacute toxicity

Aspiration toxicity

Product:

No data available

Components:

No data available

11.2 Other information

Product:

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

Nausea

Vomiting

Headache

Unconsciousness

narcosis

Cyanosis

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SECTION 12: Ecological information

12.1 Toxicity

Product:

No data available

Components:

1-Methoxy-2-propanol acetate:

- Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 134 mg/l
Exposure time: 96 h
Test Type: static test
Method: OECD Test Guideline 203
Remarks: (ECHA)
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 408 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202
Remarks: (ECHA)
- Toxicity to algae/aquatic plants : NOEC (Pseudokirchneriella subcapitata (green algae)): > 1.000 mg/l
Exposure time: 96 h
Test Type: static test
Analytical monitoring: yes
Method: OECD Test Guideline 201
Remarks: (ECHA)
- ErC50 (Pseudokirchneriella subcapitata (green algae)): > 1.000 mg/l
Exposure time: 96 h
Test Type: static test
Analytical monitoring: yes
Method: OECD Test Guideline 201
Remarks: (ECHA)
- Toxicity to microorganisms : EC10 (activated sludge): > 1.000 mg/l
Exposure time: 30 min
Test Type: static test
Method: OECD Test Guideline 209
Remarks: (ECHA)
- EC20 (activated sludge): > 1.000 mg/l
Exposure time: 30 min
Test Type: static test
Method: OECD Test Guideline 209
Remarks: (ECHA)
- Toxicity to fish (Chronic toxicity) : NOEC: 47,5 mg/l
Exposure time: 14 d
Species: Oryzias latipes (Orange-red killifish)
Test Type: flow-through test

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Analytical monitoring: yes
Method: OECD Test Guideline 204
Remarks: (ECHA)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: ≥ 100 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Test Type: semi-static test
Analytical monitoring: yes
Method: OECD Test Guideline 211
Remarks: (ECHA)

12.2 Persistence and degradability

Product:

No data available

Components:

1-Methoxy-2-propanol acetate:

Biodegradability : Test Type: aerobic
Inoculum: activated sludge
Concentration: 76,4 mg/l
Result: Readily biodegradable.
Biodegradation: 83 %
Exposure time: 28 d
Method: OECD Test Guideline 301F
Remarks: (ECHA)

Biochemical Oxygen Demand (BOD) : 330 mg/g
Incubation time: 5 d
Remarks: (IUCLID)

Chemical Oxygen Demand (COD) : 1.740 mg/g
Remarks: (IUCLID)

ThOD : 1.820 mg/g
Remarks: (IUCLID)

12.3 Bioaccumulative potential

Product:

No data available

Components:

1-Methoxy-2-propanol acetate:

Partition coefficient: n-octanol/water : log Pow: 1,2 (20 °C)
Method: OECD Test Guideline 117
Remarks: Bioaccumulation is not expected.
(ECHA)

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12.4 Mobility in soil

Product:

No data available

Components:

1-Methoxy-2-propanol acetate:

No data available

12.5 Results of PBT and vPvB assessment

Product:

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher..

Components:

1-Methoxy-2-propanol acetate:

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

12.6 Other adverse effects

Product:

Additional ecological information : Discharge into the environment must be avoided.

Components:

1-Methoxy-2-propanol acetate:

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

SECTION 14: Transport information

Air transport(IATA)

- 14.1. UN/ID No. : UN 1993
14.2. Proper shipping name : Flammable liquid, n.o.s.
(2-methoxy-1-methylethyl acetate)
14.3. Class : 3
14.4. Packing group : III
14.5 Environmentally hazardous : --
14.6 Special precautions : no

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for user

Sea transport(IMDG)

14.1. UN number : UN 1993
14.2. Proper shipping name : FLAMMABLE LIQUID, N.O.S.
(2-methoxy-1-methylethyl acetate)
14.3. Class : 3
14.4. Packing group : III
14.5 Environmentally hazardous : --

14.6 Special precautions : yes

for user

EmS Code : F-E, S-E

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not relevant

Land transport(ADR/RID)

14.1. UN number : UN 1993
14.2. Proper shipping name : FLAMMABLE LIQUID, N.O.S.
(2-methoxy-1-methylethyl acetate)
14.3. Class : 3
14.4. Packing group : III
14.5 Environmentally hazardous : --

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII) : See Annex XVII to Regulation (EC) no 1907/2006 for Conditions of restriction
Number on list: 3

Storage class : 3

15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out.

SECTION 16: Other information

Training advice

Provide adequate information, instruction and training for operators.

Revision Note

Safety datasheet sections which have been updated : SECTION 2 (Classification and labeling)
SECTION 3 (Hazardous components)
SECTION 15 (Regulatory information)

Full text of H-Statements

H226 : Flammable liquid and vapour.
H336 : May cause drowsiness or dizziness.

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Key or legend to abbreviations and acronyms used in the safety data sheet

AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); EC_x - Concentration associated with x% response; EHS - Extremely Hazardous Substance; EL_x - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErC_x - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC₅₀ - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC₅₀ - Lethal Concentration to 50 % of a test population; LD₅₀ - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Disclaimer

The information contained herein is based on the present state of our knowledge. It characterises the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product.