

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

MERCK

Version: 1.0

Product number: 697377

Date of first issue: 19.10.2017

Print Date: 05.02.2018

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

1.1 Product identifier

Product number 697377

Product name AZ 9260 Photoresist (520 CPS)

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.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



Signal word : Warning

Hazard statements : H226 Flammable liquid and vapour.

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

2.3 Other hazards

None known.

SECTION 3: Composition/information on ingredients

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Chemical nature : Organic mixture in:
solvent

3.1 Substance

Not applicable

3.2 Mixtures

Hazardous components

Chemical name	CAS-No. Registration number	Classification	Concentration (% w/w)
2-methoxypropyl acetate	2-Methoxypropyl acetate-1	Flam. Liq. 3; H226 Repr. 1B; H360D STOT SE 3; H335	>= 0,1 - < 0,3

Substances with a workplace exposure limit

2-methoxy-1-methylethyl acetate	108-65-6 01-2119475791-29- xxxx	Flam. Liq. 3; H226	>= 50 - <= 100
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SECTION 4: First aid measures

4.1 Description of first aid measures

- If inhaled : fresh air.
- In case of skin contact : Take off immediately all contaminated clothing. Rinse skin with water/ shower.
- In case of eye contact : rinse out with plenty of water.
Remove contact lenses.
- If swallowed : make victim drink water (two glasses at most). Consult doctor if feeling unwell.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : We have no description of any toxic symptoms.

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

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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 : In the event of fire, wear self-contained breathing apparatus.

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.
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.

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SECTION 7: Handling and storage

7.1 Precautions for safe handling

- Advice on safe handling : 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.
- Risks from decomposition products: see section 10.3
- Recommended storage temperature : Recommended storage temperature see product label.

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 :

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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.

Respiratory protection : required when vapours/aerosols are generated.

Recommended Filter type: : ABEK-filter

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.

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 to red
Odour	ether-like
Odour Threshold	No information available.
pH	Not applicable
Melting point	No information available.
Boiling point/boiling range	134 °C
Flash point	40 °C Method: DIN 51755 (closed cup)

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Evaporation rate	No information available.
Flammability (solid, gas)	Not applicable
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapour pressure	ca. 3 mbar Method: (calculated)
Relative vapour density	No information available.
Density	1,07 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	The substance or mixture is not classified as self heating.
Decomposition temperature	No information available.
Viscosity, kinematic	No information available.
Explosive properties	No information available.
Oxidizing properties	No information available.

9.2 Other data

None

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 explosion with:
fuming sulfuric acid
Nitric acid
silver
perchlorates
nitrogen dioxide
nonmetallic halides

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acetic acid
halogen-halogen compounds
uranium hexafluoride
organic nitro compounds

Risk of ignition or formation of inflammable gases or vapours
with:
Oxidizing agents

Violent reactions possible with:
alkalines
Peroxides
Strong acids
Strong oxidizing agents
sulfur
with
Heat

10.4 Conditions to avoid

Conditions to avoid : Heating.
Exposure to light.

10.5 Incompatible materials

Materials to avoid : no information available

10.6 Hazardous decomposition products

no information available

SECTION 11: Toxicological information

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:

2-methoxypropyl acetate:

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

2-methoxy-1-methylethyl acetate:

Acute oral toxicity : LD50 (Rat): 8.532 mg/kg
Remarks: (RTECS)

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

Skin corrosion/irritation

Product:

No data available

Components:

2-methoxy-1-methylethyl acetate:

Species: Rabbit
Exposure time: 24 h
Method: OECD Test Guideline 404
Result: No irritation

Serious eye damage/eye irritation

Product:

No data available

Components:

2-methoxy-1-methylethyl acetate:

Species: Rabbit
Method: OECD Test Guideline 405
Result: No eye irritation

Respiratory or skin sensitisation

Product:

No data available

Components:

2-methoxy-1-methylethyl acetate:

Test Type: Maximisation Test
Exposure routes: dermal
Species: Guinea pig
Method: OECD Test Guideline 406
Result: Does not cause skin sensitisation.

Germ cell mutagenicity

Product:

No data available

Components:

2-methoxy-1-methylethyl acetate:

Genotoxicity in vitro : Test Type: Ames test
Species: Salmonella typhimurium
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative

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Carcinogenicity

Product:

This information is not available.

Components:

This information is not available.

Reproductive toxicity

Product:

No data available

Components:

2-methoxypropyl acetate:

Effects on fertility :

Effects on foetal development : No data available

Reproductive toxicity - Assessment : May damage the unborn child.

STOT - single exposure

Product:

No data available

Components:

2-methoxypropyl acetate:

Exposure routes: Inhalation

Assessment: May cause respiratory irritation.

STOT - repeated exposure

Product:

No data available

Components:

No data available

Repeated dose toxicity

Product:

No data available

Components:

No data available

Aspiration toxicity

Product:

No data available

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Components:

No data available

11.2 Other information

Product:

Handle in accordance with good industrial hygiene and safety practice.

SECTION 12: Ecological information

12.1 Toxicity

Product:

No data available

Components:

2-methoxypropyl acetate:

No data available

2-methoxy-1-methylethyl acetate:

- | | | |
|--|---|--|
| Toxicity to fish | : | LC50 (<i>S.gairdnerii</i>): 100 - 180 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203 |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (<i>Daphnia magna</i> (Water flea)): 373 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202 |
| Toxicity to algae | : | EC50 (<i>Pseudokirchneriella subcapitata</i> (green algae)): > 1.000 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 201 |
| Toxicity to microorganisms | : | EC10 (activated sludge): > 1.000 mg/l
Exposure time: 30 min
Method: OECD Test Guideline 209 |
| Toxicity to fish (Chronic toxicity) | : | NOEC: 47,5 mg/l
Exposure time: 14 d
Species: <i>Oryzias latipes</i> (Orange-red killifish)
Method: OECD Test Guideline 204 |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : | NOEC: \geq 100 mg/l
Exposure time: 21 d
Species: <i>Daphnia magna</i> (Water flea)
Test Type: semi-static test
Method: OECD Test Guideline 211 |

12.2 Persistence and degradability

Product:

No data available

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Components:

2-methoxypropyl acetate:

No data available

2-methoxy-1-methylethyl acetate:

Biodegradability : Result: Readily eliminated from water
Biodegradation: 100 %
Exposure time: 8 d
Method: OECD Test Guideline 302B

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:

2-methoxypropyl acetate:

No data available

2-methoxy-1-methylethyl acetate:

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

12.4 Mobility in soil

Product:

No data available

Components:

2-methoxypropyl acetate:

No data available

2-methoxy-1-methylethyl 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

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0.1% or higher..

Components:

2-methoxypropyl acetate:

No data available

2-methoxy-1-methylethyl 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:

2-methoxypropyl acetate:

No data available

2-methoxy-1-methylethyl acetate:

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

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

for user

Sea transport(IMDG)

14.1. UN number : UN 1993

14.2. Proper shipping name : FLAMMABLE LIQUID, N.O.S.

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(2-Methoxy-1-methylethyl acetate)

14.3. Class : 3
14.4. Packing group : III
14.5 Environmentally hazardous : --
14.6 Special precautions for user : yes
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

Regulation (EC) No 850/2004 on persistent organic pollutants : Not applicable

REACH - List of substances subject to authorisation (Annex XIV) : Not applicable

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : Not applicable

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : Not applicable

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII) : 2-methoxypropyl acetate

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

		Quantity 1	Quantity 2
P5c	FLAMMABLE LIQUIDS	5.000 t	50.000 t

Storage class : 3

Volatile organic compounds : Volatile organic compounds (VOC) content: 620 g/l

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Other regulations : Take note of Dir 94/33/EC on the protection of young people at work.

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.

Full text of H-Statements

H226 : Flammable liquid and vapour.
H335 : May cause respiratory irritation.
H360D : May damage the unborn child.

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

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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); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - 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.