

## **AZ P4620 PHOTORESIST**

Substance No.: GHSBBG70J7  
Version 4.0 DE-GHS

Revision Date 12.05.2015

Print Date 13.08.2015

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

#### **1.1 Product identifier**

Trade name : AZ P4620 PHOTORESIST

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

Use of the Substance/Mixture : Electronic industry  
Intermediate for electronic industry

#### **1.3 Details of the supplier of the safety data sheet**

Company : Merck Performance Materials GmbH  
Rheingaustrasse 190-196 ,  
65203 Wiesbaden Germany

Telephone : +49 (0)611 962 8563

E-mail address of person responsible for the SDS : [PSE@merckgroup.com](mailto:PSE@merckgroup.com)

#### **1.4 Emergency telephone number**

Emergency telephone number : +49 69 305 6418 (24/7, English and German)

### **SECTION 2: Hazards identification**

#### **2.1 Classification of the substance or mixture**

**Classification (REGULATION (EC) No 1272/2008)**

##### **GHS Classification**

Flammable liquids, Category 3

H226: Flammable liquid and vapour.

#### **2.2 Label elements**

##### **GHS-Labeling**

Symbol(s) :



Signal word : Warning

Hazard statements : H226 Flammable liquid and vapour.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



## AZ P4620 PHOTORESIST

Substance No.: GHSBBG70J7  
Version 4.0 DE-GHS

Revision Date 12.05.2015

Print Date 13.08.2015

Precautionary statements : **Prevention:**

P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P233	Keep container tightly closed.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.

**Response:**

P303 + P361 + P353	IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

**Storage:**

P403 + P235	Store in a well-ventilated place. Keep cool.
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### 2.3 Other hazards

No information available.

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

#### Chemical characterization

Preparation of polymer resins and diazo compounds in organic solvents (halogenfree).

Hazardous components

#### 2-methoxypropyl acetate

CAS-No.	: 70657-70-4
EC-No.	: 274-724-2
Classification	: Flam. Liq. 3; H226
(REGULATION (EC) No 1272/2008)	Repr. 1B; H360D STOT SE 3; H335

Concentration [%] : < 0,3

WEL substance :

#### 2-methoxy-1-methylethyl acetate

CAS-No.	: 108-65-6
EC-No.	: 203-603-9
Registration number	: 01-2119475791-29-xxxx
Classification	: Flam. Liq. 3; H226
(REGULATION (EC) No 1272/2008)	
Concentration [%]	: >= 50 - <= 100

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



## AZ P4620 PHOTORESIST

Substance No.: GHSBBG70J7  
Version 4.0 DE-GHS

Revision Date 12.05.2015

Print Date 13.08.2015

For explanation of abbreviations see section 16.

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

- General advice : Take off all contaminated clothing immediately.  
If symptoms persist, call a physician.  
Show this safety data sheet to the doctor in attendance.
- Inhalation : If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
- Skin contact : Wash off immediately with plenty of water.  
If skin irritation persists, call a physician.
- Eye contact : Immediately flush eye(s) with plenty of water.  
Protect unharmed eye.  
Remove contact lenses.
- Ingestion : If symptoms persist, call a physician.  
Show this safety data sheet to the doctor in attendance.

#### 4.3 Indication of any immediate medical attention and special treatment needed

- Treatment : Treat symptomatically.

### SECTION 5: Firefighting measures

#### 5.1 Extinguishing media

- Suitable extinguishing media : Water spray jet  
Foam  
Dry powder  
Carbon dioxide (CO<sub>2</sub>)

#### 5.2 Special hazards arising from the substance or mixture

- Specific hazards during firefighting : In case of fire hazardous decomposition products may be produced such as:  
Carbon dioxide (CO<sub>2</sub>)  
Carbon monoxide

#### 5.3 Advice for firefighters

- Special protective equipment for firefighters : Well closed full protective clothing (coat and pants) including helmet.  
In the event of fire, wear self-contained breathing apparatus.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



## AZ P4620 PHOTORESIST

Substance No.: GHSBBG70J7  
Version 4.0 DE-GHS

Revision Date 12.05.2015

Print Date 13.08.2015

Further information : Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

### SECTION 6: Accidental release measures

#### 6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Refer to protective measures listed in sections 7 and 8.

#### 6.2 Environmental precautions

Environmental precautions : Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration.

#### 6.3 Methods and materials for containment and cleaning up

Methods for cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).  
Keep in suitable, closed containers for disposal.  
Clean contaminated floors and objects thoroughly while observing environmental regulations.

#### 6.4 Reference to other sections

Additional advice : Information regarding Waste Disposal, see chapter 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.

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

#### 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.  
Protect against light.

Advice on common storage : Keep away from food and drink.

#### 7.3 Specific end use(s)

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



## AZ P4620 PHOTORESIST

Substance No.: GHSBBG70J7  
Version 4.0 DE-GHS

Revision Date 12.05.2015

Print Date 13.08.2015

: No information available.

### SECTION 8: Exposure controls/personal protection

#### 8.1 Control parameters

##### Components with workplace control parameters

<b>Components</b>	:	<b>2-methoxy-1-methylethyl acetate</b>
CAS-No.	:	108-65-6
Value	:	AGW
Control parameters	:	50 ppm 270 mg/m <sup>3</sup>
Category short-time exposure	:	1;(I)
Update	:	2006-01-01
Basis	:	DE TRGS 900
Further information	:	DFG: Senate commission for the review of compounds at the work place dangerous for the health (MAK-commission).European Union (The EU has established a limit value: deviations in value and peak limit are possible)When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child

<b>Components</b>	:	<b>2-methoxypropyl acetate</b>
CAS-No.	:	70657-70-4
Value	:	AGW
Control parameters	:	5 ppm 28 mg/m <sup>3</sup>
Category short-time exposure	:	8;(II)
Update	:	2006-01-01
Basis	:	DE TRGS 900
Further information	:	DFG: Senate commission for the review of compounds at the work place dangerous for the health (MAK-commission).Skin absorptionWhen there is compliance with the OEL and biological tolerance values, harm to the unborn child can not be excluded

#### Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

2-methoxy-1-methylethyl acetate : End Use: Workers  
Exposure routes: Skin contact  
Potential health effects: Chronic effects  
Value: 54,8 mg/kg

End Use: Workers  
Exposure routes: Inhalation  
Potential health effects: Chronic effects  
Value: 33 mg/m<sup>3</sup>

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



## AZ P4620 PHOTORESIST

Substance No.: GHSBGG70J7  
Version 4.0 DE-GHS

Revision Date 12.05.2015

Print Date 13.08.2015

End Use: Workers  
Exposure routes: Ingestion  
Potential health effects: Chronic effects  
1,67 mg/kg

End Use: Consumers  
Exposure routes: Skin contact  
Potential health effects: Chronic effects  
153,5 mg/kg

End Use: Consumers  
Exposure routes: Inhalation  
Potential health effects: Chronic effects  
275 mg/kg

### Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

2-methoxy-1-methylethyl acetate : Fresh water  
Value: 0,635 mg/l

Marine water  
Value: 0,0635 mg/l

Fresh water sediment  
Value: 3,29 mg/kg

Marine sediment  
Value: 0,329 mg/kg

Soil  
Value: 0,29 mg/kg

## 8.2 Exposure controls

### Engineering measures

Provide sufficient air exchange and/or exhaust in work rooms.

### Personal protective equipment

Respiratory protection : Use respiratory protection in case of insufficient exhaust ventilation or prolonged exposure  
Recommended Filter type:  
ABEK-filter

Hand protection : Break through time: > 10 min  
Glove thickness: > 0,4 mm  
For short-term exposure (splash protection):  
Nitrile rubber gloves.  
Remarks: These types of protective gloves are offered by

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



## AZ P4620 PHOTORESIST

Substance No.: GHSBBG70J7  
Version 4.0 DE-GHS

Revision Date 12.05.2015

Print Date 13.08.2015

various manufacturers. Please note the manufacturers' detailed statements, especially about the minimum thickness and the minimum breakthrough time. Consider also the particular working conditions under which the gloves are being used.

- Eye protection : Tightly fitting safety goggles
- Skin and body protection : protective clothing
- Hygiene measures : At work do not eat, drink, smoke or take drugs.  
Keep away from foodstuffs and beverages.  
Wash hands before breaks and after work.  
Use barrier skin cream.
- Protective measures : Do not inhale vapours  
Avoid contact with eyes and skin  
Observe the usual precautions for handling chemicals.
- Environmental exposure controls**
- General advice : Do not flush into surface water or sanitary sewer system.  
Avoid subsoil penetration.

### SECTION 9: Physical and chemical properties

#### 9.1 Information on basic physical and chemical properties

##### Appearance

- Form : Liquid
- Colour : yellow to red
- Odour : ester-like

##### Safety data

- Flash point : approx. 42 °C
- Ignition temperature : not determined
- Thermal decomposition : not determined
- Lower explosion limit : not determined
- Upper explosion limit : not determined
- Flammability (solid, gas) : not determined
- Oxidizing properties : not determined
- Auto-ignition temperature : not determined
- Burning number : not determined
- pH : Not applicable
- Freezing point : not determined
- Starts to boil : 145 °C

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



## AZ P4620 PHOTORESIST

Substance No.: GHSBBG70J7  
Version 4.0 DE-GHS

Revision Date 12.05.2015

Print Date 13.08.2015

Sublimation point	: not determined
Vapour pressure	: approx. 5 hPa, 20 °C
Density	: ca. 1,07 g/cm <sup>3</sup> , 25 °C
Water solubility	: The solvent is partially water soluble but the product forms two layers.
Partition coefficient: n-octanol/water	: not determined
Solubility in other solvents	: not determined
Viscosity, dynamic	: approx. 35 mPas, 20 °C
Viscosity, kinematic	: not determined
Relative vapour density	: not determined
Corrosive in contact with metals	: not determined
Evaporation rate	: not determined

### 9.2 Other information

Further information : Remarks: No information available.

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No dangerous reaction known under conditions of normal use.

### 10.2 Chemical stability

No decomposition if stored and applied as directed.

### 10.3 Possibility of hazardous reactions

Hazardous reactions : No dangerous reaction known under conditions of normal use.

### 10.4 Conditions to avoid

Conditions to avoid : Heat, flames and sparks.

### 10.5 Incompatible materials

Materials to avoid : Oxidizing agents  
Strong acids  
Bases

### 10.6 Hazardous decomposition products

Hazardous decomposition products : No decomposition if stored and applied as directed.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



## AZ P4620 PHOTORESIST

Substance No.: GHSBBG70J7  
Version 4.0 DE-GHS

Revision Date 12.05.2015

Print Date 13.08.2015

### Product

Acute oral toxicity : no data available  
Acute inhalation toxicity : no data available  
Acute dermal toxicity : no data available  
Skin corrosion/irritation : no data available  
Serious eye damage/eye irritation : no data available  
Respiratory or skin sensitisation : no data available  
Further information : no data available

### Components:

#### **2-methoxypropyl acetate :**

Reproductive toxicity : May damage the unborn child.

#### **2-methoxy-1-methylethyl acetate :**

Acute oral toxicity : LD50: > 8.532 mg/kg, rat(female)  
Acute inhalation toxicity : LC50: > 10,8 mg/l, 6 h, rat,  
Acute dermal toxicity : LD50: > 5.000 mg/kg, rabbit

## SECTION 12: Ecological information

### 12.1 Toxicity

#### Components:

#### **2-methoxy-1-methylethyl acetate:**

Toxicity to fish : LC50 (Oryzias latipes (Orange-red killifish)): 100 mg/l  
Exposure time: 96 h  
Test Type: semi-static test

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 373 mg/l  
Exposure time: 48 h

### 12.2 Persistence and degradability

#### Components:

#### **2-methoxy-1-methylethyl acetate :**

Biodegradability : Result: Readily biodegradable.  
Biodegradation: 99 %  
Exposure time: 28 d

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



## AZ P4620 PHOTORESIST

Substance No.: GHSBBG70J7  
Version 4.0 DE-GHS

Revision Date 12.05.2015

Print Date 13.08.2015

### 12.3 Bioaccumulative potential

#### Components:

#### **2-methoxy-1-methylethyl acetate :**

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

Partition coefficient: n-octanol/water : log Pow: 1,2

### 12.4 Mobility in soil

#### Components:

#### **2-methoxy-1-methylethyl acetate :**

Distribution among environmental compartments : Koc: 1,7Remarks: Highly mobile in soils

### 12.5 Results of PBT and vPvB assessment

#### Components:

#### **2-methoxy-1-methylethyl acetate :**

Assessment : The substance does not fulfill the PBT criteria.. The substance does not fulfill the vPvB criteria..

### 12.6 Other adverse effects

No data available

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Product : Product should be taken to a suitable and authorized waste disposal site in accordance with relevant regulations and if necessary after consultation with the waste disposal operator and/or the competent Authorities

Contaminated packaging : Dispose of as unused product.

## SECTION 14: Transport information

#### **ADR**

UN number : 1993

Description of the goods : FLAMMABLE LIQUID, N.O.S.  
(2-Methoxy-1-methylethyl acetate)

Class : 3

Packing group : III

Classification Code : F1

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



## AZ P4620 PHOTORESIST

Substance No.: GHSBBG70J7  
Version 4.0 DE-GHS

Revision Date 12.05.2015

Print Date 13.08.2015

Labels : 3  
Environmentally hazardous : no

### 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

### 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

### RID

UN number : 1993  
Description of the goods : FLAMMABLE LIQUID, N.O.S.  
(2-Methoxy-1-methylethyl acetate)  
Class : 3  
Packing group : III  
Classification Code : F1  
Labels : 3  
Environmentally hazardous : no

## SECTION 15: Regulatory information

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

International Chemical Weapons Convention (CWC) : Neither banned nor restricted  
Schedules of Toxic Chemicals and Precursors

International Chemical Weapons Convention (CWC) : Neither banned nor restricted  
Schedules of Toxic Chemicals and Precursors

Restrictions on the marketing and use of certain dangerous substances and preparations : Neither banned nor restricted

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII) : 108-65-6

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



## AZ P4620 PHOTORESIST

Substance No.: GHSBBG70J7  
Version 4.0 DE-GHS

Revision Date 12.05.2015

Print Date 13.08.2015

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals	: Neither banned nor restricted
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Candidate List of Substances of Very High Concern for Authorisation	: Neither banned nor restricted
REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).	: This product does not contain substances of very high concern (Regulation (EC) No 1907/2006 (REACH), Article 57).
REACH - List of substances subject to authorisation (Annex XIV)	: Neither banned nor restricted
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer	: Neither banned nor restricted
Regulation (EC) No 850/2004 on persistent organic pollutants	: Neither banned nor restricted
Water contaminating class (Germany)	: 1 weakly water polluting
Other regulations	: BG Data Sheet M 004 "Substances causing irritation / corrosive substances"

### 15.2 Chemical Safety Assessment

A Chemical Safety Assessment is not required for a mixture.

### SECTION 16: Other information

#### Full text of H-Statements referred to under sections 2 and 3.

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

Decimal notation: "Thousands" places are identified with a dot (example: 2.000 mg/kg means "two thousand mg/kg"). Decimal places are identified with a comma (example: 1,35 g/cm<sup>3</sup>)

#### Further information

Further information : Observe national and local legal requirements

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



## AZ P4620 PHOTORESIST

Substance No.: GHSBBG70J7  
Version 4.0 DE-GHS

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