AZ 1518 Photoresist **0005**

Substance No.: SXR100615 Revision Date 15.04.2015 Print Date 13.08.2015
Version 1.0 DE-GHS

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

1.1 Product identifier

Trade name : AZ 1518 Photoresist 0005

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 :

E-mail address of person responsible for the SDS : PSE@merckgroup.com

1.4 Emergency telephone number

Emergency telephone number :

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-Labelling

Symbol(s) :

Signal word : Warning

Hazard statements : H226 Flammable liquid and vapour.

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.

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

1-Naphthalenesulfonic acid, 6-Diazo-5,6-dihydro-5-oxo-, ester with phenyl(2,3,4-trihydroxyphenyl)methanone

CAS-No.	:	68510-93-0
EC-No.	:	270-931-7
Classification (REGULATION (EC) No 1272/2008)	:	Flam. Sol. 2; H228 Self-react. D; H242 Skin Irrit. 2; H315 Eye Irrit. 2; H319 Aquatic Chronic 3; H412
Concentration [%]	:	>= 5 - < 10

2-methoxypropyl acetate

CAS-No.	:	70657-70-4
EC-No.	:	274-724-2
Classification (REGULATION (EC) No 1272/2008)	:	Flam. Liq. 3; H226 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 (REGULATION (EC) No 1272/2008)	:	Flam. Liq. 3; H226
Concentration [%]	:	>= 50 - <= 100

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 : Remove the casualty into fresh air and keep him calm.
Call in a physician immediately and show him the Safety Data Sheet.

Skin contact : In case of contact with skin wash off immediately with polyethylene glycol 400, then with plenty of water
If polyethylene glycol is not available, rinse of with plenty of water.

Eye contact : Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
Remove contact lenses.

Ingestion : Do not induce vomiting.
Call in a physician immediately and show him the Safety Data Sheet.
Let plenty of water be drunk in small gulps.

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 (CO2)

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting	:	Thermal decomposition may generate carbon dioxide and 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.
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 good ventilation of working area (local exhaust ventilation if necessary).

Advice on protection against fire and explosion	:	Keep away from sources of ignition

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 and dry in a cool, well-ventilated place. Protect from light.
Advice on common storage	:	Keep away from food and drink.
Storage period	:	< 12 Months
Other data	:	Store between 30 and 75 °F (-1 and 24 °C).

7.3 Specific end use(s)

: No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Components with workplace control parameters

Components	:	**2-methoxy-1-methylethyl acetate**
CAS-No.	:	108-65-6
Value	:	AGW
Control parameters	:	50 ppm 270 mg/m3
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

Components	:	**2-methoxypropyl acetate**
CAS-No.	:	70657-70-4
Value	:	AGW
Control parameters	:	5 ppm 28 mg/m3
Category short-time	:	8;(II)

exposure		
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/m3

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

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 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 glasses
Skin and body protection	:	protective clothing
Hygiene measures	:	When using do not eat, drink or smoke. Keep away from food and drink. Wash hands before breaks and at the end of workday. Use barrier skin cream.
Protective measures	:	Do not breathe vapours or spray mist. Avoid contact with skin and eyes. 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	:	app. 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	:	from 145 °C
Sublimation point	:	not determined
Vapour pressure	:	approx. 5 hPa, 20 °C
Density	:	1 g/cm3, 20 °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

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:

1-Naphthalenesulfonic acid, 6-Diazo-5,6-dihydro-5-oxo-, ester with phenyl(2,3,4-trihydroxyphenyl)methanone :

Acute oral toxicity	:	LD50: > 5.000 mg/kg, rat
Skin corrosion/irritation	:	rabbit, Result: Skin irritation
Serious eye damage/eye irritation	:	rabbit, Result: Eye irritation
Germ cell mutagenicity		
Genotoxicity in vitro	:	Ames test, Result: negative

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:

1-Naphthalenesulfonic acid, 6-Diazo-5,6-dihydro-5-oxo-, ester with phenyl(2,3,4-trihydroxyphenyl)methanone:

Toxicity to fish	:	LC50 (Danio rerio (zebra fish)): 22 - 50 mg/l Exposure time: 96 h
Toxicity to bacteria	:	EC50 : > 1.000 mg/l Method: OECD 209

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:

1-Naphthalenesulfonic acid, 6-Diazo-5,6-dihydro-5-oxo-, ester with phenyl(2,3,4-trihydroxyphenyl)methanone :

Biodegradability	:	Result: Not readily biodegradable. Method: OECD 301 D

2-methoxy-1-methylethyl acetate :

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

12.3 Bioaccumulative potential

Components:

1-Naphthalenesulfonic acid, 6-Diazo-5,6-dihydro-5-oxo-, ester with phenyl(2,3,4-trihydroxyphenyl)methanone :

Partition coefficient: n-octanol/water	:	log Pow: 6,84 Method: other (calculated)

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
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) Schedules of Toxic Chemicals and Precursors	:	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
Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals	:	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	:	Neither banned nor restricted

(Annex XIV)

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

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.
H228	Flammable solid
H242	Heating may cause a fire.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H360D	May damage the unborn child.
H412	Harmful to aquatic life with long lasting effects.

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/cm3)

Further information

Further information : Observe national and local legal requirements

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.