1. Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name: AZ NLOF 2070 PHOTORESIST 302-0004

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: AZ Electronic Materials (Germany) GmbH
Rheingaustrasse 190-196,
65203 Wiesbaden Germany

Telephone: +49 (0)611 962 8563
E-mail address: PSE@az-em.com
Responsible/issuing person: Product Safety:
+49(0)6126-229248 or +49(0)6126-227340

1.4 Emergency telephone number

Emergency telephone number: +49 69 305 6418

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.

Classification (67/548/EEC, 1999/45/EC)

Flammable R10: Flammable.

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.

Labelling according to EC Directives 1999/45/EC
R-phrase(s) : R10 Flammable.
S-phrase(s) : S60 This material and its container must be disposed of as hazardous waste.

2.3 Other hazards
No information available.

3. Composition/information on ingredients
3.2 Mixtures

Chemical characterization
Preparation of polymer resins and light sensitive compounds in organic solvents (halogenfree).

Hazardous components
1,3-Benzenedimethanol, 2-hydroxy-5-(1,1,3,3-tetramethylbutyl)-
CAS-No. : 5568-04-7
4. First aid measures

4.1 Description of first aid measures

General advice : Remove soiled or soaked clothing immediately
If someone exposed to the product feels unwell, contact a
doctor and show this safety data sheet.
Adhere to personal protective measures when giving first aid

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
4.3 Indication of any immediate medical attention and special treatment needed

Treatment: Treat symptomatically.

5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media:
- water spray jet
- foam
- dry powder
- carbon dioxide

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire fighting: Thermal decomposition may generate carbon dioxide and carbon monoxide.

5.3 Advice for firefighters

Special protective equipment for fire-fighters:
- Well closed full protective clothing (coat and pants) including helmet.
- Use self-contained breathing apparatus

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

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions: See: Exposure controls and personal protection.

6.2 Environmental precautions

Environmental precautions: Do not allow entry to drains, water courses or soil

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up:
- Pick up with liquid binding materials and if necessary fill in containers capable of being locked.
- Containers in which spilt substance has been collected must be adequately labelled
- Dispose of absorbed material in accordance with the
regulations.
Clean contaminated floors and objects thoroughly, observing environmental regulations

6.4 Reference to other sections

Additional advice:
Information regarding Safe handling, see chapter 7.
Information regarding personal protective measures see, chapter 8.
Information regarding Waste Disposal, see chapter 13.

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: Observe the general rules of industrial fire protection

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers: Keep only in the 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: Do not store or transport together with foodstuffs

7.3 Specific end uses

8. Exposure controls/personal protection

8.1 Control parameters

Components with workplace control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value</th>
<th>Control parameters</th>
<th>Update</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-methoxy-1-methylethyl</td>
<td>108-65-6</td>
<td>TWA</td>
<td>50 ppm</td>
<td>275 mg/m³</td>
<td>2000-06-16</td>
</tr>
</tbody>
</table>
Further information: skin: Identifies the possibility of significant uptake through the skin

Indicative

<table>
<thead>
<tr>
<th>STEL</th>
<th>100 ppm 550 mg/m³</th>
<th>2000-06-16</th>
<th>2000/39/EC</th>
</tr>
</thead>
</table>
| Further information: skin: Identifies the possibility of significant uptake through the skin
|

Indicative

DNEL

2-methoxy-1-methylethyl acetate

End Use: Workers
Exposure routes: Skin contact
Potential health effects: Chronic effects
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

PNEC

2-methoxy-1-methylethyl acetate

Fresh water
Value: 0,635 mg/l

Marine water
Value: 0,0635 mg/l

Fresh water sediment
8.2 Exposure controls

Engineering measures

See chapter7; no measures exceeding the ones mentioned are necessary.

Personal protective equipment

Respiratory protection : Use respiratory protection in case of insufficient exhaust ventilation or prolonged exposure

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 : 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 allow entry to drains, water courses or soil
9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

**Appearance**

- **Form**: Liquid
- **Colour**: clear yellow
- **Odour**: strong characteristic

**Safety data**

- **Flash point**: 43 °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
- **Autoignition temperature**: not determined
- **Burning number**: not determined
- **pH**: not reasonable
- **Freezing point**: not determined
- **Starts to boil**: 134 °C
- **Sublimation point**: not determined
- **Vapour pressure**: approx. 2.9 hPa
- **Density**: 1.071 g/cm3
- **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**: not determined
- **Viscosity, kinematic**: not determined
- **Relative vapour density**: not determined
- **Evaporation rate**: not determined

9.2 Other information

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.

11. Toxicological information

11.1 Information on toxicological effects

<table>
<thead>
<tr>
<th>Product</th>
<th>Acute oral toxicity</th>
<th>Acute Toxicity Estimate (ATE): 44.924 mg/kg, Calculation method</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Acute inhalation toxicity</td>
<td>no data available</td>
</tr>
<tr>
<td></td>
<td>Acute dermal toxicity</td>
<td>no data available</td>
</tr>
<tr>
<td></td>
<td>Skin corrosion/irritation</td>
<td>no data available</td>
</tr>
<tr>
<td></td>
<td>Serious eye damage/eye irritation</td>
<td>no data available</td>
</tr>
<tr>
<td></td>
<td>Respiratory or skin sensitization</td>
<td>no data available</td>
</tr>
</tbody>
</table>

Components:
1,3-Benzenedimethanol, 2-hydroxy-5-(1,1,3,3-tetramethylbutyl)- :
Acute oral toxicity : LD50: app. 500 mg/kg, rat(female), 96/54/EC - B1 tris - OECD 423, GLP: yes

2-methoxy-1-methylethyl acetate :
Acute oral toxicity : LD50: > 8.532 mg/kg, rat(female)
12. Ecological information

12.1 Toxicty

**Product:**

- Toxicity to fish: no data available
- Toxicity to daphnia and other aquatic invertebrates: no data available
- Toxicity to bacteria: no data available

**Components:**

- **2-methoxy-1-methylethyl acetate**
  - Toxicity to fish: LC50: 100 mg/l, 96 h, Oryzias latipes (Orange-red killifish), semi-static test
  - Toxicity to daphnia and other aquatic invertebrates: EC50: 373 mg/l, 48 h, Daphnia magna (Water flea)

12.2 Persistence and degradability

**Product:**

- Biodegradability: no data available

**Components:**

- **2-methoxy-1-methylethyl acetate**
  - Biodegradability: 99 %, Result: Readily biodegradable, Exposure time: 28 d

12.3 Bioaccumulative potential

**Components:**

**2-methoxy-1-methylethyl acetate**

- Bioaccumulation: Bioaccumulation is unlikely.

12.4 Mobility in soil

**Components:**

- **2-methoxy-1-methylethyl acetate**
  - Distribution among environmental compartments: Koc: 1.7, Highly mobile in soils
12.5 Results of PBT and vPvB assessment

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

**Assessment:**
- This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).
- This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

12.6 Other adverse effects

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:**
- Packaging that cannot be cleaned should be disposed of as product waste.

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
- **Hazard identification No:** 30
- **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

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<tbody>
<tr>
<td>Description of the goods</td>
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</tr>
<tr>
<td>Class</td>
<td>3</td>
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<tr>
<td>Packing group</td>
<td>III</td>
</tr>
<tr>
<td>Labels</td>
<td>3</td>
</tr>
<tr>
<td>EmS Number 1</td>
<td>F-E</td>
</tr>
<tr>
<td>EmS Number 2</td>
<td>S-E</td>
</tr>
<tr>
<td>Marine pollutant</td>
<td>no</td>
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</table>

### RID

<table>
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<td>3</td>
</tr>
<tr>
<td>Environmentally hazardous</td>
<td>no</td>
</tr>
</tbody>
</table>

### 15. Regulatory information

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

- **Candidate List of Substances of Very High Concern for Authorisation**: Neither banned nor restricted

### 16. Other information

#### Full text of R-phrases referred to under sections 2 and 3

- **R10**: Flammable.
- **R22**: Harmful if swallowed.

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

- **H226**: Flammable liquid and vapour.
- **H302**: Harmful if swallowed.

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

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