1. Identification

**Product identifier**
ma-P 1275G Photoresist

**Recommended use of the chemical and restrictions on use**

**Use of the substance/mixture**
- Photoresist

**Product Categories [PC]:** Photosensitive agent and other photochemicals

**Sector of uses [SU]:** Manufacture of computer, electronic and optical products, electrical equipment.

**Uses advised against**
- Do not use for private purposes (household).

**Details of the supplier of the safety data sheet**
- **Company name:** micro resist technology GmbH
- **Street:** Koepenicker Str. 325
- **Place:** D-12555 Berlin
- **Telephone:** +49 30 641670-100
- **Telefax:** +49 30 641670-200
- **e-mail:** safety@microresist.de
- **Internet:** www.microresist.de

**Emergency phone number:** Chemtrec (International - 24 h): +1 703 527 3887

2. Hazard(s) identification

**Classification of the chemical**

**29 CFR Part 1910.1200**
- **Hazard categories:**
  - Flammable liquids: Flam. Liq. 3
  - Reproductive toxicity: Repr. 1B

**Hazard Statements:**
- May damage fertility or the unborn child

**Label elements**

**29 CFR Part 1910.1200**
- **Signal word:** Danger

**Pictograms:**

- Flammable liquid and vapor
- May damage fertility or the unborn child

**Hazard statements**
- Flammable liquid and vapor
- May damage fertility or the unborn child

**Precautionary statements**
- Obtain special instructions before use.
- Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
- Wear protective gloves/protective clothing/eye protection/face protection.
- If exposed or concerned: Get medical advice/attention.
- In case of fire: Use Extinguishing powder, Foam, Carbon dioxide to extinguish. Store in a well-ventilated place. Keep cool.

**Hazard not otherwise classified**
- The components in this formulation do not meet the criteria for classification as PBT or vPvB.
3. Composition/information on ingredients

Mixtures

Hazardous components

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Components</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>108-65-6</td>
<td>2-methoxy-1-methylethyl acetate</td>
<td>50 - 90 %</td>
</tr>
<tr>
<td>31001-73-7</td>
<td>4-Benzoyl-1,3-phenylene bis(6-diazo-5,6-dihydro-5-oxonaphthalene-1-sulphonate)</td>
<td>&lt; 5 %</td>
</tr>
<tr>
<td>70657-70-4</td>
<td>2-methoxypropyl acetate</td>
<td>&lt; 0.2 %</td>
</tr>
</tbody>
</table>

4. First-aid measures

Description of first aid measures

General information
In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

After inhalation
Provide fresh air. In case of breathing difficulties administer oxygen. If victim is at risk of losing consciousness, position and transport on their side. In case of respiratory tract irritation, consult a physician.

After contact with skin
After contact with skin, wash immediately with plenty of water and soap. Change contaminated clothing. In case of skin irritation, seek medical treatment.

After contact with eyes
Rinse immediately carefully and thoroughly with eye-bath or water.

After ingestion
Observe risk of aspiration if vomiting occurs. Rinse mouth immediately and drink plenty of water.

Most important symptoms and effects, both acute and delayed
No information available.

Indication of any immediate medical attention and special treatment needed
Treat symptomatically.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media
Carbon dioxide (CO2), Foam, Extinguishing powder.

Unsuitable extinguishing media
Water.

Specific hazards arising from the chemical
Flammable. Vapours can form explosive mixtures with air.

Special protective equipment and precautions for fire-fighters
In case of fire: Wear self-contained breathing apparatus.

Additional information
Use water spray jet to protect personnel and to cool endangered containers. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures
Remove all sources of ignition. Provide adequate ventilation.
Environmental precautions
Do not allow to enter into surface water or drains.

Methods and material for containment and cleaning up
Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

Reference to other sections
Safe handling: see section 7
Personal protection equipment: see section 8
Disposal: see section 13

7. Handling and storage

Precautions for safe handling

Advice on safe handling
Use only in well-ventilated areas. Only use the material in places where open light, fire and other flammable sources can be kept away.
Do not breathe vapour/aerosol.

Advice on protection against fire and explosion
Keep away from sources of ignition - No smoking. Take precautionary measures against static discharges.
Vapours can form explosive mixtures with air.

Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels
Keep container tightly closed. Keep in a cool, well-ventilated place. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Advice on storage compatibility
Do not store together with: Oxidising agent. Pyrophoric or self-heating substances.

Further information on storage conditions
Protect against: heat. UV-radiation/sunlight.

8. Exposure controls/personal protection

Control parameters

Additional advice on limit values
No data available

Exposure controls

Appropriate engineering controls
If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray. Wear personal protection equipment. Provide adequate ventilation.

Protective and hygiene measures
Take off contaminated clothing. Wash hands before breaks and after work. When using do not eat or drink.

Eye/face protection
Suitable eye protection: Tightly sealed safety glasses.
In accordance with DIN EN 166

Hand protection
When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the
specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. Tested protective gloves are to be worn:
German Industry Norms (DIN) / European Norms (EN): DIN EN 374

Duration of wearing with permanent contact:
Suitable material: Butyl rubber.
Thickness of glove material: 0.7 mm
penetration time (maximum wearing period): > 480 min
Recommended protective gloves brand:
1) KCL 898 Butoject, Manufacturer: KCL GmbH, D-36124 Eichenzell, Source of supply: www.kcl.de
2) Butoflex 650 (www.mapa-pro.com)

Wearing time with occasional contact (splashes):
Suitable material: NBR (Nitrile rubber).
Thickness of glove material: 0.4 mm
penetration time (maximum wearing period): > 30 min
Recommended protective gloves brand:
For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Skin protection
Wear suitable protective clothing.

Respiratory protection
In case of inadequate ventilation wear respiratory protection. If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn. Respiratory protection necessary at: aerosol or mist generation. Filtering device (full mask or mouthpiece) with filter: A

Environmental exposure controls
Do not empty into drains.

9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Information on basic physical and chemical properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state: liquid</td>
</tr>
<tr>
<td>Color: red brown</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Test method</th>
</tr>
</thead>
<tbody>
<tr>
<td>not determined</td>
</tr>
</tbody>
</table>

Changes in the physical state

<table>
<thead>
<tr>
<th>Melting point/freezing point:</th>
<th>not determined</th>
</tr>
</thead>
</table>

Initial boiling point and boiling range: 151 °C

Flash point: 48 °C DIN EN ISO 13736

Flammability

<table>
<thead>
<tr>
<th>Solid:</th>
<th>not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas:</td>
<td>not applicable</td>
</tr>
</tbody>
</table>

Explosive properties

not determined

Lower explosion limits: 1,2 vol. %
Upper explosion limits: 10,6 vol. %

Auto-ignition temperature

<table>
<thead>
<tr>
<th>Solid:</th>
<th>not applicable</th>
</tr>
</thead>
</table>
### 10. Stability and reactivity

**Reactivity**
- Flammable.

**Chemical stability**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stability</td>
<td>Stable</td>
</tr>
<tr>
<td></td>
<td>The product is stable under storage at normal ambient temperatures.</td>
</tr>
</tbody>
</table>

**Possibility of hazardous reactions**
- Hazardous reactions: **Will not occur**
- No known hazardous reactions.

**Conditions to avoid**
- Keep away from sources of heat (e.g. hot surfaces), sparks and open flames. Vapours can form explosive mixtures with air.

**Incompatible materials**
- Oxidizing agents.
- Reducing agent.
- Peroxides.

**Hazardous decomposition products**
- No known hazardous decomposition products.

**Further information**
- Keep in a cool place.
- Observe technical data sheet.: Processing Guidelines

### 11. Toxicological information

**Information on toxicological effects**

**Route(s) of Entry**
- Inhalation, ingestion, skin contact, eye contact
Acute toxicity
Based on available data, the classification criteria are not met.

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Components</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Exposure route</td>
</tr>
<tr>
<td>108-65-6</td>
<td>oral</td>
</tr>
<tr>
<td></td>
<td>dermal</td>
</tr>
<tr>
<td>31001-73-7</td>
<td>oral</td>
</tr>
<tr>
<td></td>
<td>dermal</td>
</tr>
</tbody>
</table>

Irritation and corrosivity
Based on available data, the classification criteria are not met.

Sensitizing effects
Based on available data, the classification criteria are not met.

Carcinogenic/mutagenic/toxic effects for reproduction
May damage fertility or the unborn child
Germ cell mutagenicity: Based on available data, the classification criteria are not met.
Carcinogenicity: Based on available data, the classification criteria are not met.
Method: Calculation method.

Specific target organ toxicity (STOT) - single exposure
Based on available data, the classification criteria are not met.

Specific target organ toxicity (STOT) - repeated exposure
Based on available data, the classification criteria are not met.
Carcinogenicity (OSHA): Ingredient (name): none
Carcinogenicity (IARC): Ingredient (name): none
Carcinogenicity (NTP): Ingredient (name): none

Aspiration hazard
Based on available data, the classification criteria are not met.

12. Ecological information

Ecotoxicity
The product is not: Ecotoxic.

Persistence and degradability
The product has not been tested.

Bioaccumulative potential
The product has not been tested.

Mobility in soil
The product has not been tested.

Other adverse effects
No information available.

Further information
Avoid release to the environment.

13. Disposal considerations
Waste treatment methods

Advice on disposal
Do not allow to enter into surface water or drains. Dispose of waste according to applicable legislation.
Consult the local waste disposal expert about waste disposal.

Contaminated packaging
Wash with plenty of water. Completely emptied packages can be recycled. Dispose of waste according to applicable legislation.
Consult the local waste disposal expert about waste disposal.

14. Transport information

US DOT 49 CFR 172.101

<table>
<thead>
<tr>
<th>UN/ID number:</th>
<th>UN 1866</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proper shipping name:</td>
<td>resin solution</td>
</tr>
<tr>
<td>Transport hazard class(es):</td>
<td>3</td>
</tr>
<tr>
<td>Packing group:</td>
<td>III</td>
</tr>
<tr>
<td>Hazard label:</td>
<td>3</td>
</tr>
</tbody>
</table>

Marine transport (IMDG)

| UN number: | UN 1866 |
| UN proper shipping name: | Resin solution |
| Transport hazard class(es): | 3 |
| Packing group: | III |
| Hazard label: | 3 |

Limited quantity: 5 L
Exempted quantity: E1
EmS: F-E, S-E

Air transport (ICAO-TI/IATA-DGR)

| UN number: | UN 1866 |
| UN proper shipping name: | Resin solution |
| Transport hazard class(es): | 3 |
| Packing group: | III |
| Hazard label: | 3 |

Limited quantity Passenger: 10 L
Passenger LQ: Y344
Exempted quantity: E1
IATA-packing instructions - Passenger: 355
IATA-max. quantity - Passenger: 60 L
IATA-packing instructions - Cargo: 366
IATA-max. quantity - Cargo: 220 L

Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no
Special precautions for user
Warning: Combustible liquid.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
not applicable

15. Regulatory information

U.S. Regulations
National Inventory TSCA
All components of this product are included on the TSCA Chemical Inventory or are not required to be listed on
the TSCA Chemical Inventory.

National regulatory information
SARA Section 311/312 Hazards:
2-methoxy-1-methylethyl acetate (108-65-6): Fire hazard
4-Benzoyl-1,3-phenylene bis(6-diazo-5,6-dihydro-5-oxonaphthalene-1-sulphonate) (31001-73-7): Reactive,
Immediate (acute) health hazard
2-methoxypropyl acetate (70657-70-4): Fire hazard, Immediate (acute) health hazard

State Regulations
Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65, State of California)
This product contains no chemicals known to the State of California to cause cancer, birth defects or other
reproductive harm.

16. Other information

Hazardous Materials Information Label (HMIS)
Health: *2
Flammability: 2
Physical Hazard: 0
Personal Protection: B

NFPA Hazard Ratings
Health: 2
Flammability: 2
Reactivity: 0
Unique Hazard: /

Changes
Revision date: 27.09.2016
Revision No: 1,00
chapter: 1; 2; 3; 4; 5; 6; 7; 8; 9; 10; 11; 12; 13; 14; 15

Abbreviations and acronyms
ADR: Accord européen sur le transport des marchandises dangereuses par Route
(European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service
LC50: Lethal concentration, 50%
LD50: Lethal dose, 50%

Other data
The above information describes exclusively the safety requirements of the product and is based on our
present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor’s safety data sheet.)