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

1.1 Identification of the substance or preparation

mr-I 7000E Series Imprint Polymer

Use of the substance/preparation
Polymer for Nanoimprint Lithography

1.2 Company/undertaking identification

Company name: micro resist technology GmbH
Street: Koepenicker Str. 325, Haus 211
Place: D-12555 Berlin
Telephone: +49 30 65762192
e-mail: mrt@microresist.de
Internet: www.microresist.de

2. Composition/information on ingredients

Chemical characterization
( preparation )

Hazardous components

<table>
<thead>
<tr>
<th>EC-No.</th>
<th>CAS-No.</th>
<th>Chemical name</th>
<th>Quantity</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>203-603-9</td>
<td>108-65-6</td>
<td>2-methoxy-1-methylethyl acetate</td>
<td>80-100 %</td>
<td>Xi R10-36</td>
</tr>
</tbody>
</table>

Full text of each relevant R phrase can be found in heading 16.

3. Hazards identification

Classification
Symbols: Irritant
R-phrases:
  Flammable.
  Irritating to eyes.

4. First aid measures

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

After contact with skin
After contact with skin, wash immediately with soap and plenty of water. Change contaminated clothing. If skin becomes irritated, seek medical treatment.

After contact with eyes
Immediately flush eyes with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Consult an ophthalmologist.

After ingestion
Rinse mouth with water. Let water be swallowed in little sips (dilution effect). Consult physician.

Advice to doctor
Treat symptomatically.

5. Fire-fighting measures
Suitable extinguishing media
Carbon dioxide (CO2). Dry extinguishing powder. Foam.

Extinguishing media which must not be used for safety reasons
High power water jet.

Special exposure hazards arriving from substance or preparation itself, combustion products, resulting gases
In case of fire and/or explosion do not breathe fumes.

Special protective equipment for fire-fighters
In case of fire: Wear self-contained breathing apparatus. Wear a chemical resistant suit.

Additional information
Contaminated fire-fighting water must not get into the sewerage network.

6. Accidental release measures

Personal precautions
Remove from all sources of ignition. Contact with the skin and inhalation of aerosols/vapors from the preparation must be avoided. Provide adequate ventilation.

Environmental precautions
Do not empty into drains or the aquatic environment.

Methods for cleaning up/taking up
Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Do not rinse down with water. Collect in closed containers for disposal. Clean contaminated articles and floor according to the environmental legislation.

7. Handling and storage

7.1 Handling
Advice on safe handling
Use only in well-ventilated areas. Keep away from sources of ignition. No smoking.

Advice on protection against fire and explosion
Take precautionary measures against static discharges.

7.2 Storage
Requirements for storage rooms and vessels
Keep container tightly closed and in a well-ventilated place. Storage temperature: of °C: 18 up to °C: 25. Keep away from sources of ignition. No smoking. Take precautionary measures against static discharges.

Further information on storage conditions
Protect against: heating. UV-solarization/sunlight.

Storage class (VCI):
3 A

8. Exposure controls/personal protection

8.1 Exposure limit values

<table>
<thead>
<tr>
<th>CAS No.</th>
<th>Substance</th>
<th>ml/m³</th>
<th>mg/m³</th>
<th>F/ml</th>
<th>Category</th>
<th>Origin</th>
</tr>
</thead>
<tbody>
<tr>
<td>108-65-6</td>
<td>1-Methoxypropyl acetate</td>
<td>50</td>
<td>274</td>
<td></td>
<td>TWA (8 h)</td>
<td>WEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>100</td>
<td>548</td>
<td></td>
<td>STEL (15 min)</td>
<td>WEL</td>
</tr>
</tbody>
</table>

8.2 Exposure controls
Protective and hygiene measures
When using do not eat, drink, smoke or sneeze. Protect skin by using skin protective cream. After work, wash hands and face. Immediately remove any contaminated clothing, shoes or stockings.

Respiratory protection
If technical suction or ventilation measures are not possible or are insufficient, protective breathing apparatus must be worn. Breathing protection indicated: aerosol or mist generation. Filter respirator (full mask or mouth-piece) with filter: A.

Hand protection
Tested protective gloves are to be worn: Single-use gloves.
German Industry Standards / EN standards: EN 374

Duration of wearing with permanent contact:
Qualified materials: Butyl rubber.
Layer thickness: 0.7 mm
Breakthrough time: > 480 min
Recommended makes of protective gloves: KCL 898 Butoject, Manufacturer: KCL GmbH, D-36124 Eichenzell, Source of supply: www.kcl.de

Duration of wearing with occasional contact (splashes):
Qualified materials: NBR (Nitrile rubber).
Layer thickness: 0.4 mm
Breakthrough time: > 30 min

In the cases of special applications, it is recommended to check the chemical resistance with the manufacturer of the gloves.

Eye protection
Suitable eye protection: Tightly sealed safety glasses.

Skin protection
For the protection against direct skin contact, body protective clothing is essential (in addition to the usual working clothes).

9. Physical and chemical properties

9.1 General information
Physical state: liquid
Colour: clear
Odour: hydrocarbons, aromatic.

9.2 Important health, safety and environmental information

<table>
<thead>
<tr>
<th>Changes in the physical state</th>
<th>Test method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boiling point :</td>
<td>148-151 °C (2-methoxy-1-methylethyl acetate)</td>
</tr>
<tr>
<td>Flash point :</td>
<td>48.0 °C (2-methoxy-1-methylethyl acetate)</td>
</tr>
<tr>
<td>Lower explosion limits :</td>
<td>1.5 vol. % (2-methoxy-1-methylethyl acetate)</td>
</tr>
<tr>
<td>Upper explosion limits :</td>
<td>10.8 vol. % (2-methoxy-1-methylethyl acetate)</td>
</tr>
<tr>
<td>Vapour pressure :</td>
<td>3.1 hPa (2-methoxy-1-methylethyl acetate)</td>
</tr>
<tr>
<td>at (20 °C)</td>
<td></td>
</tr>
</tbody>
</table>
Vapour pressure: 21 hPa (2-methoxy-1-methylethyl acetate)
Density (at 25 °C): 0.975-0.985 g/cm³
Water solubility: insoluble
Viscosity / dynamic: 4-10 mPa·s

9.3 Other information
Ignition temperature: 315 °C (2-methoxy-1-methylethyl acetate)

10. Stability and reactivity

Conditions to avoid
UV-solarization/sunlight, heating. Only use the material in places where open light, fire and other flammable sources can be kept away. Take precautionary measures against static discharges.

Materials to avoid
Oxidizing agents.

11. Toxicological information

Acute toxicity
Acute toxicity, oral LD50: 8532 mg/kg species: rat.
Acute toxicity, dermal LD50: 7500 mg/kg species: rabbit.
The statement is derived from the properties of the components.

12. Ecological information

Ecotoxicity
Acute fish toxicity LC50: 161 mg/l species: Pimephales promelas
Acute Daphnia toxicity EC50: 408 mg/l species: Daphnia magna

Additional information
The information about ecology refer to the main components.
Do not allow uncontrolled leakage of product into the environment.

13. Disposal considerations

Advice on disposal
Appropriate disposal / Product: Remove according to the regulations.
Contaminated packaging: Cleaned containers may be recycled.

14. Transport information

Land transport (ADR/RID)
ADR/RID class: 3
Warnings plate
Hazard-no.: 30
UN number: 1866
Hazard label: 3
ADR/RID packing group: III

Description of the goods
Proper Shipping Name: RESIN SOLUTION

Inland waterways transport
Remarks (inland waterways transport)
Not classified for this carrier.
## marine transport

<table>
<thead>
<tr>
<th>IMDG code</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN number</td>
<td>1866</td>
</tr>
<tr>
<td>EmS</td>
<td>F-E, S-E</td>
</tr>
<tr>
<td>IMDG packing group</td>
<td>III</td>
</tr>
<tr>
<td>Hazard label</td>
<td>3</td>
</tr>
</tbody>
</table>

### description of the goods

RESIN SOLUTION flammable

## air transport

<table>
<thead>
<tr>
<th>ICAO/IATA-DGR</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN/ID number</td>
<td>1866</td>
</tr>
<tr>
<td>Hazard label</td>
<td>3</td>
</tr>
</tbody>
</table>

### IATA-packing instructions - Passenger

<table>
<thead>
<tr>
<th>IATA-packing instructions</th>
<th>309</th>
</tr>
</thead>
<tbody>
<tr>
<td>IATA-max. quantity - Passenger</td>
<td>60 L</td>
</tr>
<tr>
<td>IATA-packing instructions - Cargo</td>
<td>310</td>
</tr>
<tr>
<td>IATA-max. quantity - Cargo</td>
<td>220 L</td>
</tr>
</tbody>
</table>

### ICAO packing group

III

### description of the goods

RESIN SOLUTION

## 15. Regulatory information

### 15.1 labelling

- **Indication of danger**: Xi - Irritant
- **Xi - Irritant**

### R phrases

- 10 Flammable.
- 36 Irritating to eyes.

### S phrases

- 25 Avoid contact with eyes.

### 15.2 national regulations

- Employment restrictions: Observe employment restrictions for young people.
- Water contaminating class: 1 - slightly water contaminating

## 16. Other information

### List of relevant R phrases

- 10 Flammable.
- 36 Irritating to eyes.

### Other data
The information is based on present level of our knowledge. It does not, however, give assurances of product properties and establishes no contract legal rights.
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.