

# Safety Data Sheet

according to 2001/58/EC

## mr-I 7000E Series Imprint Polymer

Print date : 3.4.2008

Product code : R341XXX

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

#### Identification of the substance or preparation

mr-I 7000E Series Imprint Polymer

#### Use of the substance/preparation

Polymer for Nanoimprint Lithography

#### Company/undertaking identification

Company name : micro resist technology GmbH  
 Street : Koepenicker Str. 325, Haus 211  
 Place : D-12555 Berlin

Telephone : +49 30 65762192

Telefax : +49 30 65762193

e-mail : mrt@microresist.de  
 Internet : www.microresist.de

### 2. Composition/information on ingredients

Chemical characterization ( preparation )

#### Hazardous components

EC-No.	CAS-No.	Chemical name	Quantity	Classification
203-603-9	108-65-6	2-methoxy-1-methylethyl acetate	80-100 %	Xi R10-36

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

### 3. Hazards identification

#### Classification

Indications of danger : Irritant

R-phrases :

Flammable.

Irritating to eyes.

### 4. First aid measures

#### 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 irritation of the respiratory tract seek medical advice.

#### 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

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

#### After ingestion

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

#### Advice to doctor

Treat symptomatically.

### 5. Fire-fighting measures

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#### Suitable extinguishing media

Carbon dioxide (CO<sub>2</sub>). 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 chemical resistant suit.

#### Additional information

Contaminated fire-fighting water must be collected separately.

### 6. Accidental release measures

#### Personal precautions

Remove all sources of ignition. The following must be prevented: inhalation. skin contact. Eye contact.  
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 objects and areas thoroughly observing environmental regulations.

### 7. Handling and storage

#### 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.

#### 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.

##### Storageclass (VCI) :

3 A

### 8. Exposure controls/personal protection

#### Exposure limit values

#### Exposure limits (EH40)

CAS No.	Substance	ml/m <sup>3</sup>	mg/m <sup>3</sup>	F/ml	Category	Origin
108-65-6	1-Methoxypropyl acetate	50	274		TWA (8 h)	WEL
		100	548		STEL (15 min)	WEL

#### Exposure controls

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#### Protective and hygiene measures

Do not eat, drink, smoke or sneeze at the workplace. Protect skin by using skin protective cream.  
After work, wash hands and face. Immediately remove any wetted clothing, shoes or stockings.

#### Respiratory protection

If technical suction or ventilation measures are not possible or are insufficient, protective breathing apparatus must be worn. Respiratory protection required in case of: 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 Norms (DIN) / European Norms (EN): EN 374

Duration of wearing with permanent contact:

Suitable material: Butyl rubber.

Layer thickness: 0.7 mm

penetration time (maximum wearing period): > 480 min

Recommended protective gloves brand: KCL 898 Butoject, Manufacturer: KCL GmbH, D-36124

Eichenzell, Source of supply: www.kcl.de

Duration of wearing with occasional contact (splashes):

Suitable material: NBR (Nitrile rubber).

Layer thickness: 0.4 mm

penetration time (maximum wearing period): > 30 min

Recommended protective gloves brand: KCL 730 Camatril-Velours, Manufacturer: KCL GmbH, D-36124 Eichenzell, Source of supply: www.kcl.de

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

#### General information

Physical state : liquid  
Colour : clear  
Odour : hydrocarbons, aromatic.

#### Important health, safety and environmental information

##### Changes in the physical state

	Test method
Boiling point :	148-151 °C (2-methoxy-1-methylethyl acetate)
Flash point :	48.0 °C (2-methoxy-1-methylethyl acetate)
Lower explosion limits :	1.5 vol. % (2-methoxy-1-methylethyl acetate)
Upper explosion limits :	10.8 vol. % (2-methoxy-1-methylethyl acetate)
Vapour pressure : (at 20 °C)	3.1 hPa (2-methoxy-1-methylethyl acetate)

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Vapour pressure : (at 50 °C)	21 hPa (2-methoxy-1-methylethyl acetate)
Density (at 25 °C) :	0.975-0.985 g/cm <sup>3</sup>
Water solubility :	insoluble
Viscosity / dynamic : (at 25 °C)	4-10 mPa·s

#### Other information

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

### 10. Stability and reactivity

#### Conditions to avoid

UV-solarization/sunlight. heating. Only use material in places where open light, fire and other sources of ignition 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

#### Further information

Ecological information refers to main component.  
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
Warning 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.

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#### Marine transport

IMDG code :	3
UN number :	1866
EmS :	F-E, S-E
IMDG packing group :	III
Hazard label :	3

#### **Description of the goods**

RESIN SOLUTION flammable

#### Air transport

ICAO/IATA-DGR :	3
UN/ID number :	1866
Hazard label :	3
IATA-packing instructions - Passenger :	309
IATA-max. quantity - Passenger :	60 L
IATA-packing instructions - Cargo :	310
IATA-max. quantity - Cargo :	220 L
ICAO packing group :	III

#### **Description of the goods**

RESIN SOLUTION

### 15. Regulatory information

#### Labelling

Danger symbols : Xi - Irritant



Xi - Irritant

#### **R phrases**

10	Flammable.
36	Irritating to eyes.

#### **S phrases**

25	Avoid contact with eyes.
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#### National regulations

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

### 16. Other information

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

10	Flammable.
36	Irritating to eyes.

#### **Other data**

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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.