

**Material Safety Data Sheet**

according to ANSI Z400.1-2004

**ma-N 1400 Negative Tone Photoresist Series**

Print date: 30.04.2013

Product code: R221XXX

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

ma-N 1400 Negative Tone Photoresist Series

Product group: Negativresist

**Chemical characterization ( Mixture )****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 telephone:** +49 30 641670-100**Further Information**

This number is serviced during office hours.

**SECTION 2: Hazards identification****Route(s) of Entry**

inhalation, ingestion, skin contact, eye contact

**Signs and Symptoms of Exposure**

Causes skin irritation.

Causes serious eye irritation.

Carcinogenicity (NTP): Ingredient (name): none/none

Carcinogenicity (IARC): Ingredient (name): none/none

Carcinogenicity (OSHA): Ingredient (name): none/none

**Other hazards**

Flammable liquid and vapour.

The components in this formulation do not meet the criteria for classification as PBT or vPvB.

**SECTION 3: Composition/information on ingredients****Mixtures****Hazardous components**

CAS No	Components	Quantity
100-66-3	Anisole	40-65 %
108-65-6	2-methoxy-1-methylethyl acetate	10-25 %

**SECTION 4: First aid measures****Description of first aid measures****General information**

In case of accident or if you feel unwell, seek medical advice immediately (show 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 irritation of the respiratory tract seek

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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**

Rinse immediately carefully and thoroughly with eye-bath or water. Consult an ophthalmologist.

**After ingestion**

Rinse mouth immediately and drink large quantities of water.

Caution if victim vomits: Risk of aspiration!

Medical treatment necessary.

**Indication of any immediate medical attention and special treatment needed**

Treat symptomatically.

### SECTION 5: Firefighting measures

**Extinguishing media****Suitable extinguishing media**

Carbon dioxide (CO<sub>2</sub>). Dry extinguishing powder. Foam.

**Unsuitable extinguishing media**

High power water jet.

**Special hazards arising from the substance or mixture**

In case of fire and/or explosion do not breathe fumes.

**Advice for firefighters**

In case of fire: Wear self-contained breathing apparatus. Wear chemical resistant suit.

**Additional information**

Use water spray/stream to protect personnel and to cool endangered containers.

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

### SECTION 6: Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

Provide adequate ventilation. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eye and clothing. Wear personal protection equipment.

**Environmental precautions**

Do not empty into drains or the aquatic environment.

**Methods and material for containment and cleaning up**

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents).

Collect in closed containers for disposal. Clean contaminated objects and areas thoroughly observing environmental regulations.

**Reference to other sections**

Treat the assimilated material according to the section on waste disposal.

See protective measures under point 7 and 8.

### SECTION 7: Handling and storage

**Precautions for safe handling****Advice on safe handling**

Use only in well-ventilated areas. Only use material in places where open light, fire and other sources of ignition can be kept away. Do not breathe vapour or spray.

**Advice on protection against fire and explosion**

Take precautionary measures against static discharges. Keep away from sources of ignition - No smoking.

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#### Conditions for safe storage, including any incompatibilities

##### 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. Suitable material for floor covering: Solvent-proof.

##### Further information on storage conditions

Protect against: heat. UV-radiation/sunlight.

## SECTION 8: Exposure controls/personal protection

#### Control parameters

##### Additional advice on limit values

No data available

#### Exposure controls



##### Occupational exposure controls

In case of open handling equipment with built-in suction must be used. Do not breathe gas/fumes/vapour/spray. Wear personal protection equipment. Provide adequate ventilation.

##### Protective and hygiene measures

Take off immediately all contaminated clothing. Protect skin by using skin protective cream. After work, wash hands and face. When using do not eat or drink.

##### 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.

Type of chemical protective gloves to choose depends on the concentration and quantity of dangerous substances as well as on work place specifications.

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

Breakthrough times and swelling characteristics of the material must be taken into consideration.

Before using check leak tightness / impermeability.

##### 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).

##### Environmental exposure controls

Do not empty into drains.

## SECTION 9: Physical and chemical properties

#### Information on basic physical and chemical properties

Physical state:	liquid
Color:	reddish brown
Odor:	hydrocarbons, aromatic.

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**Test method**

pH-Value:	No data available
<b>Changes in the physical state</b>	
Boiling point:	148-151 °C 2-methoxy-1-methylethyl acetate
Flash point:	45 °C DIN EN ISO 13736
Lower explosion limits:	No data available
Upper explosion limits:	No data available
Ignition temperature:	315 °C 2-methoxy-1-methylethyl acetate
Vapour pressure:	No data available
Density (at 25 °C):	1,02-1,10 g/cm <sup>3</sup>
Water solubility:	insoluble
Partition coefficient:	No data available
Viscosity / dynamic: (at 25 °C)	3-100 mPa·s
Viscosity / kinematic:	No data available
Flow time:	No data available
Vapour density:	No data available
Evaporation rate:	No data available

**Other information**

No data available

**SECTION 10: Stability and reactivity**

Stability:	Stable
Possibility of Hazardous Reactions:	May occur

**Conditions to avoid**

UV-radiation/sunlight.  
 Keep away from heat. Ignition hazard.  
 Only use material in places where open light, fire and other sources of ignition can be kept away.  
 Take precautionary measures against static discharges.

**Incompatible materials**

Oxidizing agents. (Ignition hazard.)  
 Violent reaction with: Peroxides. Oxidizing agents, strong. Acid, concentrated.

**Hazardous decomposition products**

Peroxides. Carbon monoxide. Carbon dioxide.

**SECTION 11: Toxicological information**
**Information on toxicological effects**
**Acute toxicity**

Acute toxicity, oral LD50: 3700 mg/kg species: Rat. (Anisole) (RTECS)

Acute toxicity, oral LD50: 8532 mg/kg species: Rat. (2-methoxy-1-methylethyl acetate) (RTECS)

Acute toxicity, dermal LD50: 7500 mg/kg species: Rabbit. (2-methoxy-1-methylethyl acetate)

**SECTION 12: Ecological information**

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#### Toxicity

2-methoxy-1-methylethyl acetate:

Acute fish toxicity LC50: 161 mg/l/96h species: Pimephales promelas (IUCLID)

Acute Daphnia toxicity EC50: 408 mg/l/48h species: Daphnia magna (IUCLID)

Anisole:

Acute fish toxicity LC50: >1 mg/l/96h species: Brachydanio rerio (zebrafish) (ECOTOX-Database)

Acute Daphnia toxicity EC50: 40 mg/l/24h species: Daphnia magna

#### Persistence and degradability

No data available

#### Bioaccumulative potential

Distribution coefficient (n-octanol / water) (log P O/W):

0,43 at °C: 25 (2-methoxy-1-methylethyl acetate) (literature value)

2,11 at °C: 25 (Anisole) (literature value)

#### Mobility in soil

No data available

#### Results of PBT and vPvB assessment

No data available

#### Other adverse effects

No data available

### SECTION 13: Disposal considerations

#### Waste treatment methods

##### **Advice on disposal**

Do not empty into drains or the aquatic environment. Waste disposal according to official state regulations.

##### **Contaminated packaging**

Handle contaminated packaging in the same way as the substance itself.

### SECTION 14: Transport information

#### **US DOT 49 CFR 172.101**

<b><u>ID Number:</u></b>	UN1866
<b><u>Proper shipping name</u></b>	Resin solution, flammable
<b><u>Hazard Class or Division:</u></b>	3
<b><u>Packing group:</u></b>	III
Label:	3

#### **Marine transport**

<b><u>UN number:</u></b>	UN1866
<b><u>UN proper shipping name:</u></b>	Resin solution
<b><u>Transport hazard class(es):</u></b>	3
<b><u>Packing group:</u></b>	III
Hazard label:	3



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

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**Other applicable information**

Excepted Quantity: E1

**Air transport**

**UN/ID number:** UN1866  
**UN proper shipping name:** Resin solution  
**Transport hazard class(es):** 3  
**Packing group:** III  
 Hazard label: 3



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

**Other applicable information**

Excepted Quantity: E1  
 Passenger-LQ: Y344

**Environmental hazards**

Dangerous for the environment: no

**SECTION 15: Regulatory information**
**U.S. Regulations**
**National Inventory TSCA**

TSCA Inventory: All ingredients are listed.

**SARA**

Ingredient (name): none/none

**Chemical Safety Assessment**

Chemical safety assessments for substances in this mixture were not carried out.

**SECTION 16: Other information**
**Hazardous Materials Information Label (HMIS)**

Health: 2  
 Flammability: 3  
 Physical Hazard: 1  
 Personal Protection: B

**NFPA Hazard Ratings**

Health: 2  
 Flammability: 3  
 Reactivity: 1  
 Unique Hazard: /


**Changes**

Chapter: 1, 2, 3, 4, 6, 8, 9, 10, 12, 14, 15, 16

**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

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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.

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