

## Safety Data Sheet

according to WHMIS

### ma-N 2400 Negative-tone Photoresist Series

Revision date: 01.01.2022

Product code: ma-N\_2400\_Serie

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## 1. Identification

### Product identifier

ma-N 2400 Negative-tone Photoresist Series

### Relevant identified uses of the substance or mixture and uses advised against

#### Use of the substance/mixture

Photoresist

Product Categories [PC]: Photochemical

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

## 2. Hazard identification

### Classification of the substance or mixture

#### WHMIS 2015

Flammable liquid: Flam. Liq. 3

Acute toxicity: Acute Tox. 4 (inhalation)

Skin corrosion/irritation: Skin Irrit. 2

Serious eye damage/eye irritation: Eye Irrit. 2A

Specific target organ toxicity - single exposure: STOT SE 3 (narcotic effects)

### Label elements

#### WHMIS 2015

**Signal word:** Warning

**Pictograms:**



#### Hazard statements

Flammable liquid and vapour.

Causes skin irritation.

Causes serious eye irritation.

Harmful if inhaled.

May cause drowsiness or dizziness.

#### Precautionary statements

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Keep container tightly closed.

Ground and bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting equipment.

Use non-sparking tools.

Take action to prevent static discharges.

Avoid breathing dust/fume/gas/mist/vapours/spray.

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Wash hands thoroughly after handling.  
 Use only outdoors or in a well-ventilated area.  
 Wear protective gloves/protective clothing/eye protection/face protection.  
 IF ON SKIN: Wash with plenty of soap and water.  
 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.  
 If skin irritation occurs: Get medical advice/attention.  
 Take off contaminated clothing and wash it before reuse.  
 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
 Call a POISON CENTER/doctor if you feel unwell.  
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.  
 Continue rinsing.  
 If eye irritation persists: Get medical advice/attention.  
 In case of fire: Use dry sand to extinguish.  
 Keep container tightly closed.  
 Store in a well-ventilated place. Keep cool.  
 Store locked up.  
 Dispose of contents/container to an appropriate recycling or disposal facility.

#### Other hazards

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

### 3. Composition/information on ingredients

#### Mixtures

##### Hazardous components

CAS No	Chemical name	Quantity
100-66-3	Anisole	30 - 60 %
120-92-3	cyclopentanone	30 - 60 %
	aromatic diazido compound	0.5 - 10 %

### 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. Consult an ophthalmologist.

##### After ingestion

Rinse mouth immediately and drink plenty of water.  
 Caution if victim vomits: Risk of aspiration!  
 Medical treatment necessary.

#### Most important symptoms and effects, whether acute or delayed

Causes skin irritation.  
 Causes serious eye irritation.

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

Treat symptomatically.

**5. Fire-fighting measures****Extinguishing media****Suitable extinguishing media**Carbon dioxide (CO<sub>2</sub>). Dry extinguishing powder. Foam.**Unsuitable extinguishing media**

Water.

**Specific hazards arising from the hazardous product**

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

**Special protective equipment and precautions for fire-fighters**

Wear a self-contained breathing apparatus and chemical protective clothing. Full protective suit.

**Additional information**

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****General advice**

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

**Environmental precautions**

Do not allow to enter into surface water or drains.

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

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Collect in closed containers for disposal. Clean contaminated articles and floor according to the environmental legislation.

**Reference to other sections**Treat the recovered material as prescribed in the section on waste disposal.  
See protective measures under point 7 and 8.**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**

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

**Advice on general occupational hygiene**

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

**Conditions for safe storage, including any incompatibilities****Requirements for storage rooms and vessels**

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

Suitable floor material: Solvent-proof.

Keep container tightly closed in a cool, well-ventilated place.

Further information concerning storage conditions: Observe technical data sheet.: Processing Guidelines

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#### Hints on joint storage

Do not store together with:  
Oxidising agent  
self-heating substances and mixtures

#### 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.

#### Individual protection measures, such as personal protective equipment

##### Eye/face protection

Suitable eye protection: Tightly sealed safety glasses.

##### 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): EN ISO 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: KCL 898 Butoject, Manufacturer: KCL GmbH, D-36124 Eichenzell,

Source of supply: www.kcl.de

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: KCL 730 Camatril-Velours, Manufacturer: KCL GmbH, D-36124

Eichenzell, Source of supply: www.kcl.de

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

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

##### Respiratory protection

If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be

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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

### Information on basic physical and chemical properties

Physical state: liquid  
 Colour: yellow brown  
 Odour: hydrocarbons, aromatic.

#### Test method

#### Changes in the physical state

Melting point/freezing point: No data available  
 Boiling point or initial boiling point and boiling range: 131 °C (cyclopentanone)  
 Sublimation point: No data available  
 Softening point: No data available  
 Flash point: 35 °C DIN EN ISO 13736

#### Flammability

Solid/liquid: No data available  
 Gas: No data available

#### Explosive properties

No data available

Lower explosive limits: No data available  
 Upper explosive limits: No data available  
 Auto-ignition temperature: 445 °C (cyclopentanone)

#### Self-ignition temperature

Solid: No data available  
 Gas: No data available

Decomposition temperature: No data available

pH-Value: No data available

Viscosity / dynamic: 1-15 mPa·s  
 (at 25 °C)

Viscosity / kinematic: No data available

Flow time: No data available

Water solubility: not miscible

#### Solubility in other solvents

No data available

Partition coefficient n-octanol/water: No data available

Vapour pressure: No data available

Vapour pressure: No data available

Density (at 25 °C): 0,98-1,08 g/cm³

Bulk density: No data available

Relative vapour density: No data available

### Other information

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**Information with regard to physical hazard classes**

Oxidizing properties

No data available

**Other safety characteristics**

Solvent separation test:

No data available

Solvent content:

No data available

Solid content:

No data available

Evaporation rate:

No data available

**Further Information**

No data available

**10. Stability and reactivity****Reactivity**

No data available

**Chemical stability**

No data available

**Possibility of hazardous reactions**

No data available

**Conditions to avoid**

UV-radiation/sunlight.

Keep away from heat. Ignition hazard.

**Incompatible materials**

Oxidizing agents. Reducing agent

**Hazardous decomposition products**

Carbon monoxide. Carbon dioxide.

**Further information**

Formation of explosive mixtures with: Air.

**11. Toxicological information****Information on toxicological effects****Acute toxicity**

Harmful if inhaled.

**ATEmix calculated**

ATE (inhalation dust/mist) 2,836 mg/l

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CAS No	Chemical name				
	Route of exposure	Dose	Species	Source	Method
100-66-3	Anisole				
	oral	LD50 3700 mg/kg	Rat		
	dermal	LD50 >5000 mg/kg	Rabbit		
120-92-3	cyclopentanone				
	oral	LD50 >2000 mg/kg	Rat		
	dermal	LD50 >2000 mg/kg	Rat		
	inhalation (4 h) vapour	LC50 >19,5 mg/l	Rat		
	inhalation dust/mist	ATE 1,5 mg/l			
	aromatic diazido compound				
	oral	ATE 500 mg/kg			
	inhalation vapour	ATE 11 mg/l			
	inhalation dust/mist	ATE 1,5 mg/l			

### Irritation and corrosivity

Causes skin irritation.

Causes serious eye irritation.

### Sensitizing effects

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

### Carcinogenic/mutagenic/toxic effects for reproduction

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

### STOT-single exposure

May cause drowsiness or dizziness. (Anisole)

### STOT-repeated exposure

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

### Aspiration hazard

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

### Information on likely routes of exposure

inhalation, ingestion, skin contact, eye contact

### Information on other hazards

#### Endocrine disrupting properties

No data available

#### Name of toxicologically synergistic products

No data available

## 12. Ecological information

### Ecotoxicity

There are no data available on the mixture itself.

### Persistence and degradability

No data available

### Bioaccumulative potential

There are no data available on the mixture itself.

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#### Mobility in soil

No data available

#### Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

No data available

#### Other adverse effects

No data available

### 13. Disposal considerations

#### Waste treatment methods

##### **Disposal recommendations**

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**

Dispose of waste according to applicable legislation.  
Consult the local waste disposal expert about waste disposal.

### 14. Transport information

#### **Canadian TDG**

<b><u>UN number:</u></b>	UN 1866
<b><u>Proper shipping name:</u></b>	Resin solution
<b><u>Hazard classes:</u></b>	3
<b><u>Packing group:</u></b>	III
Hazard label:	3
Limited quantity:	5 L



#### **Marine transport (IMDG)**

<b><u>UN number or ID number:</u></b>	UN 1866
<b><u>United Nations 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



Special Provisions:	223, 955
Limited quantity:	5 L
Excepted quantity:	E1
EmS:	F-E, S-E

#### **Air transport (ICAO-TI/IATA-DGR)**

<b><u>UN number or ID number:</u></b>	UN 1866
<b><u>United Nations proper shipping name:</u></b>	Resin solution
<b><u>Transport hazard class(es):</u></b>	3



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**Packing group:**

III

Hazard label:

3



Special Provisions:

A3

Limited quantity Passenger:

10 L

Passenger LQ:

Y344

Excepted 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

## 15. Regulatory information

**Canadian regulations**

## 16. Other information

**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%

**Further Information**

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.)*