Material Safety Data Sheet

according to ANSI Z400.1-2004

ma-N 2400 Negative Tone Photoresist Series

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

Product identifier

ma-N 2400 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
Carcinogenicity (IARC): Ingredient (name): none
Carcinogenicity (OSHA): Ingredient (name): 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
120-92-3	cyclopentanone	30-60 %
100-66-3	Anisole	30-60 %

SECTION 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.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media

Carbon dioxide (CO_2). Dry extinguishing powder. Foam.

Unsuitable extinguishing media

Water.

Special hazards arising from the substance or mixture

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

Advice for firefighters

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.

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, 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

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 recovered material as prescribed in 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 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

In case of fire, use sand, earth, extinguishing powder or foam. Never use water.

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 discharge. Suitable floor material: 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

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

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.

Eye/face protection

Suitable eye protection: Tightly sealed safety glasses.

Hand protection

Butyl rubber gloves or viton gloves are recommended.
Tested protective gloves are to be worn: Single-use gloves.
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.
Breakthrough times and swelling properties of the material must be taken into consideration. Before using check leak tightness / impermeability.

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 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.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

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

		Test method
pH-Value:	No data available	
Changes in the physical state		
Initial boiling point and boiling range:	131 °C	(cyclopentanone)
Flash point:	35 °C	DIN EN ISO 13736
Lower explosion limits:	No data available	
Upper explosion limits:	No data available	
Ignition temperature:	445 °C	(cyclopentanone)
Vapour pressure:	No data available	
Vapour pressure:	No data available	
Density (at 25 °C):	0,98-1,08 g/cm³	
Water solubility:	not miscible	
Partition coefficient:	No data available	
Viscosity / dynamic: (at 25 °C)	1-15 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.

Incompatible materials

Oxidizing agents. Reducing agent.

Hazardous decomposition products

Carbon monoxide. Carbon dioxide.

Further information

Formation of explosive mixtures with: Air.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity

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

CAS No	Components				
	Exposure routes	Method	Dose	Species	Source
100-66-3	Anisole				
	oral	LD50	3700 mg/kg	Rat	

Additional information on tests

The classification was carried out according to the calculation method of the Preparations Directive (1999/45/EC).

SECTION 12: Ecological information

Toxicity

No data available

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Results of PBT and vPvB assessment

No data available

Other adverse effects

No data available

Further information

Do not allow to enter into surface water or drains. The classification was carried out according to the calculation method of the Preparations Directive (1999/45/EC).

SECTION 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.

Contaminated packaging

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

SECTION 14: Transport information

US DOT 49 CFR 172.101

UN/ID number:	UN1866
Proper shipping name:	Resin solution, flammable
Hazard Class or Division:	3
Packing group:	III
Hazard label:	3

Marine transport (IMDG)

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

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

Other applicable information

Excepted Quantity: E1

Air transport (ICAO)

UN 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

ENVIRONMENTALLY HAZARDOUS: no

SECTION 15: Regulatory information

U.S. Regulations

National Inventory TSCA

TSCA Inventory Status: Listed

SARA

Ingredient (name): none

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; 4; 12; 14; 15

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.)