# Material Safety Data Sheet

according to ANSI Z400.1-2004

## Thinner for Photoresists ma-T 1050



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

**Product identifier**

Thinner for Photoresists ma-T 1050

Product group: Verdünner

**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**

oral. dermal. inhalation.

**Signs and Symptoms of Exposure**

No data available

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

**Other hazards**

Flammable liquid and vapour.

## SECTION 3: Composition/information on ingredients

**Mixtures**

**Hazardous components**

| CAS No | Components | Quantity |
|---|---|---|
| 108-65-6 | 2-methoxy-1-methylethyl acetate | 80-100 % |

## 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 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 ($CO_2$). 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**

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

## 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.

**Further information on handling**

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 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.
German Industry Norms (DIN) / European Norms (EN): DIN EN 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

Duration of wearing 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

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).

**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: | colourless - light yellow |
| Odor: | characteristic |

| | | Test method |
|---|---|---|
| pH-Value: | No data available | |
| **Changes in the physical state** | | |
| Melting point: | No data available | |
| Boiling point: | 148 °C | |
| Flash point: | 48 °C | |

**Explosive properties**

Product is: not explosive.
In case of insufficient ventilation and/or through use, explosive/highly flammable mixtures may develop.

| | |
|---|---|
| Lower explosion limits: | 1,2 vol. % |
| Upper explosion limits: | 10,6 vol. % |
| Ignition temperature: | 315 °C |
| Vapour pressure: (at 20 °C) | 5 hPa |
| Vapour pressure: (at 50 °C) | 21 hPa |
| Density (at 20 °C): | 0,97 g/cm³ |
| Water solubility: | unlöslich |
| Partition coefficient: | No data available |
| Viscosity / dynamic: (at 25 °C) | <7 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: | Will not occur |

**Conditions to avoid**

UV-radiation/sunlight.
Keep away from heat. Keep away from sources of ignition - No smoking.
Ignition hazard.

**Incompatible materials**

Oxidizing agents. (Ignition hazard.)

Violent reaction with: Peroxides. Alkalis (alkalis).

**Hazardous decomposition products**

No data available

## SECTION 11: Toxicological information

**Information on toxicological effects**

**Acute toxicity**

2-methoxy-1-methylethyl acetate:
Acute toxicity, oral LD50: 8532 mg/kg species: Rat. (RTECS)
Acute toxicity, dermal LD50: 7500 mg/kg species: Rabbit.
The statement is derived form the properties of the components.

**Additional information on tests**

No data available

## SECTION 12: Ecological information

**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 )

**Persistence and degradability**

Easily biodegradable (concerning to the criteria of the OECD)

**Bioaccumulative potential**

Distribution coefficient (n-octanol / water) (log P O/W): 0,43 at °C: 25 (literature value)
On the basis of existing data about disposal/decomposition and bio-accumulation potential, long term environmental damage is unlikely.

**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 uncontrolled leakage of product into the environment.

## 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**

| | |
|---|---|
| **ID Number:** | UN3272 |
| **Proper shipping name** | Esters, n.o.s. (1-Methoxy-2-propyl acetate) |
| **Hazard Class or Division:** | 3 |

**Packing group:** III

Label: 3

**Marine transport**

**UN number:** UN3272

**UN proper shipping name:** ESTERS, N.O.S. (1-Methoxy-2-propyl acetate)

**Transport hazard class(es):** 3

**Packing group:** III

Hazard label: 3


Limited quantity: 5 L

EmS: F-E, S-D

**Other applicable information**

Excepted Quantity: E1

**Air transport**

**UN/ID number:** UN3272

**UN proper shipping name:** ESTERS, N.O.S. (1-Methoxy-2-propyl acetate)

**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: | 2 |
| Physical Hazard: | 0 |
| Personal Protection: | B |

**NFPA Hazard Ratings**

| | |
|---|---|
| Health: | 2 |
| Flammability: | 2 |
| Reactivity: | 0 |
| Unique Hazard: | / |


**Changes**

chapter: 1; 2; 4; 5; 6; 7; 8; 9; 10; 11; 12; 13; 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 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.)*