

Safety Data Sheet

according to WHMIS

mr-DWL Serie

Revision date: 01.01.2022

Product code: mr-DWL

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1. Identification

Product identifier

mr-DWL Serie

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

Use of the substance/mixture

Photoresist

Product Categories [PC] 30: Photochemical

Sector of uses [SU] 16: 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. 4

Skin corrosion/irritation: Skin Corr. 1B

Serious eye damage/eye irritation: Eye Dam. 1

Respiratory or skin sensitization: Skin Sens. 1

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

Label elements

WHMIS 2015

Signal word: Danger

Pictograms:



Hazard statements

Combustible liquid.

Causes severe skin burns and eye damage.

May cause an allergic skin reaction.

May cause drowsiness or dizziness.

Precautionary statements

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

Do not breathe dust/fume/gas/mist/vapours/spray.

Use only outdoors or in a well-ventilated area.

Contaminated work clothing should not be allowed out of the workplace.

Wear protective gloves/protective clothing/eye protection/face protection.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.

If skin irritation or rash occurs: Get medical advice/attention.

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Take off contaminated clothing and wash it before reuse.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Immediately call a POISON CENTER/doctor.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

Immediately call a POISON CENTER/doctor.

Store in a well-ventilated place. Keep container tightly closed.

Store locked up.

Other hazards

No information available.

3. Composition/information on ingredients

Mixtures

Hazardous components

CAS No	Chemical name	Quantity
96-48-0	gamma-butyrolactone	10 - 85 %
28906-96-9	epoxy resin	10 - 70 %
60565-88-0	bis(p-tolyl)iodonium hexafluorophosphate	1 - 15 %
108-32-7	propylene carbonate	1 - 15 %

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 severe skin burns and eye damage.

May cause an allergic skin reaction.

May cause drowsiness or dizziness.

Indication of immediate medical attention and special treatment needed

Treat symptomatically.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

Carbon dioxide (CO₂). Dry extinguishing powder. Foam.

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Unsuitable extinguishing media

High power water jet.

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

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

Additional information

Use water spray jet to protect personnel and to cool endangered containers. 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 sectionsTreat 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. Keep away from sources of ignition - No smoking.

Advice on protection against fire and explosion

Take precautionary measures against static discharges.

Advice on general occupational hygiene

When using do not eat, drink or smoke. Protect skin by using skin protective cream. After work, wash hands and face. Immediately remove any wetted clothing, shoes or stockings.

Conditions for safe storage, including any incompatibilities**Requirements for storage rooms and vessels**Keep container tightly closed and in a well-ventilated place.
Keep away from sources of ignition - No smoking. Take precautionary measures against static discharges.
Suitable floor material: Solvent-proof.**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

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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

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: FKM (fluororubber).

Thickness of glove material: 0.7 mm

penetration time (maximum wearing period): > 480 min

Recommended protective gloves brand: KCL 890 Vitoject, 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 worn. Respiratory protection necessary at: aerosol or mist generation. Filtering device (full mask or mouthpiece) with filter: a

Environmental exposure controls

Do not allow uncontrolled leakage of product into the environment.

9. Physical and chemical properties

Information on basic physical and chemical properties

Physical state:	liquid
Colour:	colourless
Odour:	characteristic

	Test method
Melting point/freezing point:	No data available
Boiling point or initial boiling point and boiling range:	204 °C
Flammability:	No data available
Lower explosive limits:	2,7 vol. %

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Upper explosive limits:	15,6 vol. %
Flash point:	>70 °C DIN EN ISO 13736
Auto-ignition temperature:	430 °C
Decomposition temperature:	No data available
pH-Value:	No data available
Viscosity / kinematic:	No data available
Water solubility:	No data available
Solubility in other solvents	No data available
Partition coefficient n-octanol/water:	No data available
Vapour pressure:	0,4 hPa
(at 20 °C)	
Density:	1,1 - 1,3 g/cm³
Relative vapour density:	No data available

Other information

Information with regard to physical hazard classes

Explosive properties

No data available

Self-ignition temperature

Solid:

No data available

Gas:

No data available

Oxidizing properties

No data available

Other safety characteristics

Evaporation rate:

No data available

Solvent separation test:

No data available

Solvent content:

No data available

Sublimation point:

No data available

Softening point:

No data available

Pour point:

No data available

Viscosity / dynamic:

5 - 35000 mPa·s

(at 20 °C)

Flow time:

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.

Only use the material in places where open light, fire and other flammable sources can be kept away.

Take precautionary measures against static discharges.

Incompatible materials

Oxidizing agents.

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Acid, concentrated.

Alkalis (alkalis), concentrated.

Hazardous decomposition products

Carbon monoxide Carbon dioxide.

11. Toxicological information

Information on toxicological effects

Acute toxicity

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

ATEmix tested

	Dose	Species	Source
LD50, oral	> 2000 mg/kg	Rat	

CAS No	Chemical name				
	Route of exposure	Dose	Species	Source	Method
96-48-0	gamma-butyrolactone				
	oral	LD50 mg/kg	1582	Rat	ECHA
	dermal	LD50 mg/kg	>5000	Guinea-pig.	
108-32-7	propylene carbonate				
	oral	LD50 mg/kg	34600	Rat	GESTIS
	dermal	LD50 mg/kg	> 23800	Rabbit	GESTIS

Irritation and corrosivity

Causes severe skin burns and eye damage.

Causes serious eye damage.

Sensitizing effects

May cause an allergic skin reaction. (epoxy resin)

Carcinogenic/mutagenic/toxic effects for reproduction

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

STOT-single exposure

May cause drowsiness or dizziness. (gamma-butyrolactone)

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

12. Ecological information

Ecotoxicity

There are no data available on the mixture itself.

Persistence and degradability

There are no data available on the mixture itself.

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Bioaccumulative potential

There are no data available on the mixture itself.

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

Appropriate disposal/Product: Remove according to the regulations.

Consult the appropriate local waste disposal expert about waste disposal. Do not allow to enter into surface water or drains.

Contaminated packaging

Appropriate disposal/Product: Remove according to the regulations.

Consult the appropriate local waste disposal expert about waste disposal.

14. Transport information

Marine transport (IMDG)

UN number or ID number:

UN 1760

United Nations proper shipping name:

CORROSIVE LIQUID, N.O.S. (bis(p-tolyl)iodonium hexafluorophosphate)

Transport hazard class(es):

8

Packing group:

II

Hazard label:

8



Special Provisions:

274

Limited quantity:

1 L

Excepted quantity:

E2

EmS:

F-A, S-B

Air transport (ICAO-TI/IATA-DGR)

UN number or ID number:

UN 1760

United Nations proper shipping name:

CORROSIVE LIQUID, N.O.S. (bis(p-tolyl)iodonium hexafluorophosphate)

Transport hazard class(es):

8

Packing group:

II

Hazard label:

8



Special Provisions:

A3 A803

Limited quantity Passenger:

0.5 L

Passenger LQ:

Y840

Excepted quantity:

E2

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IATA-packing instructions - Passenger:	851
IATA-max. quantity - Passenger:	1 L
IATA-packing instructions - Cargo:	855
IATA-max. quantity - Cargo:	30 L

Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

15. Regulatory information**Canadian regulations****16. Other information****Changes**

Chapter: 2; 3; 15

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.)