

Safety Data Sheet

according to 29 CFR 1910.1200(g)

Remover for photoresists ma-R 404/S

Revision date: 01/01/2022

Product code: ma-R_404

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1. Identification

Product identifier

Remover for photoresists ma-R 404/S

Recommended use of the chemical and restrictions on use

Use of the substance/mixture

Remover for photoresists

Product Categories [PC]: Coatings and paints, thinners, paint removers

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:	Koeppenicker 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 phone number: Chemtrec (International - 24 h): +1 703 527 3887

2. Hazard(s) identification

Classification of the chemical

29 CFR Part 1910.1200

Corrosive to metals: Met. Corr. 1

Skin corrosion/irritation: Skin Corr. 1

Serious eye damage/eye irritation: Eye Dam. 1

Label elements

29 CFR Part 1910.1200

Signal word: Danger

Pictograms:



Hazard statements

May be corrosive to metals

Causes severe skin burns and eye damage

Precautionary statements

Keep only in original container.

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

Wash hands thoroughly after handling.

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/shower.

Wash contaminated clothing 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.

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Absorb spillage to prevent material damage.
Store locked up.
Store in corrosive resistant container with a resistant inner liner.
Dispose of contents/container to an appropriate recycling or disposal facility.

Hazards not otherwise classified

No information available.

3. Composition/information on ingredients

Mixtures

Hazardous components

CAS No	Components	Quantity
1310-73-2	sodium hydroxide; caustic soda	< 5 %

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: Water. 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, both acute and delayed

Causes severe skin burns and eye damage.

Indication of any 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. Water.

Unsuitable extinguishing media

No data available

Specific hazards arising from the chemical

No data available

Special protective equipment and precautions for fire-fighters

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

Additional information

Suppress gases/vapors/mists with water spray jet. Contaminated fire-fighting water must be collected separately. Do not allow to enter into surface water or drains.

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6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

General advice

Provide adequate ventilation. Do not breathe gas/fume/vapor/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. Do not breathe vapor or spray. Avoid contact with skin, eyes and clothes.

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 only in the original container in a cool, well-ventilated place.
Unsuitable materials for Container: Aluminium. Zinc. May be corrosive to metals.
Suitable material for floor covering: Leachate-proof.

8. Exposure controls/personal protection

Control parameters

Exposure limits

CAS No.	Substance	ppm	mg/m ³	f/cc	Category	Origin
1310-73-2	Sodium hydroxide	-	2		TWA (8 h)	PEL
		-	C 2		Ceiling	REL

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/fume/vapor/spray. Wear personal protection equipment. Provide adequate ventilation.

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Individual protection measures, such as personal protective equipment

Eye/face protection

Tightly sealed safety glasses.

Hand protection

Tested protective gloves are to be worn: Single-use gloves.

German Industry Norms (DIN) / European Norms (EN): EN ISO 374

Duration of wearing with permanent contact:

Suitable material: NBR (Nitrile rubber).

Thickness of glove material: 0.11 mm

penetration time (maximum wearing period): > 480 min

Recommended protective gloves brand: KCL 741 Dermatril, 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: 0.11 mm

penetration time (maximum wearing period): > 480 min

Recommended protective gloves brand: KCL 741 Dermatril, 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). Take off immediately all contaminated clothing.

Respiratory protection

Respiratory protection necessary at: aerosol or mist generation.

Filtering device (full mask or mouthpiece) with filter: B-(P3)

Environmental exposure controls

Do not empty into drains.

9. Physical and chemical properties

Information on basic physical and chemical properties

Physical state:	liquid
Color:	colorless
Odor:	No data available

Changes in the physical state

Melting point/freezing point:	No data available
Boiling point or initial boiling point and boiling range:	>100 °C
Sublimation point:	No data available
Softening point:	No data available
Pour point:	No data available
Flash point:	not applicable

Flammability

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

Explosive properties

No data available

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Lower explosion limits:	No data available
Upper explosion limits:	No data available
Auto-ignition temperature:	No data available
Self-ignition temperature	
Solid:	No data available
Gas:	No data available
Decomposition temperature:	No data available
pH-Value (at 20 °C):	13,7
Viscosity / dynamic: (at 25 °C)	<7 mPa·s
Flow time:	No data available
Water solubility:	highly soluble.
Solubility in other solvents	
No data available	
Partition coefficient n-octanol/water:	No data available
Vapor pressure:	No data available
Density (at 25 °C):	~1 g/cm ³
Bulk density:	No data available
Relative vapour density:	No data available

Other information

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

Response:
Strong acid
metal.
Ammonia.

Chemical stability

Stability: Stable
No data available

Possibility of hazardous reactions

Hazardous reactions: May occur
Response:
Strong acid
metal.
Ammonia.

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Conditions to avoid

No data available

Incompatible materials

Strong acid
metal.
Ammonia.

Hazardous decomposition products

No data available

11. Toxicological information**Route(s) of Entry**

inhalation, ingestion, skin contact, eye contact

Information on toxicological effects**Acute toxicity**

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

Irritation and corrosivity

Causes severe skin burns and eye damage
Causes serious eye damage

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.

Specific target organ toxicity (STOT) - single exposure

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

Specific target organ toxicity (STOT) - repeated exposure

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

Carcinogenicity (OSHA): Ingredient (name): none

Carcinogenicity (IARC): Ingredient (name): none

Carcinogenicity (NTP): Ingredient (name): none

Aspiration hazard

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

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

No data available

Bioaccumulative potential

No data available

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

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Other adverse effects

No data available

Further information

Do not allow uncontrolled leakage of product into the environment.

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.
Delivery to an approved waste disposal company.

Contaminated packaging

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

14. Transport information

U.S. DOT 49 CFR 172.101

UN number or ID number:

Proper shipping name:

Transport hazard class(es):

Packing group:

Hazard label:

UN 1824

SODIUM HYDROXIDE, SOLUTION

8

II

8



Marine transport (IMDG)

UN number or ID number:

UN proper shipping name:

Transport hazard class(es):

Packing group:

Hazard label:

UN 1824

SODIUM HYDROXIDE, SOLUTION

8

II

8



Special Provisions:

Limited quantity:

Excepted quantity:

EmS:

-

1 L

E2

F-A, S-B

Air transport (ICAO-TI/IATA-DGR)

UN number or ID number:

UN proper shipping name:

Transport hazard class(es):

Packing group:

Hazard label:

UN 1824

SODIUM HYDROXIDE, SOLUTION

8

II

8



Special Provisions:

Limited quantity Passenger:

Passenger LQ:

Excepted quantity:

A3 A803

0.5 L

Y840

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

Special precautions for user

Warning: strongly corrosive.

See protective measures under point 7 and 8.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

not applicable

15. Regulatory information

U.S. Regulations

National Inventory TSCA

TSCA Inventory: All ingredients are listed.

National regulatory information

SARA Section 304 CERCLA:

Sodium hydroxide (1310-73-2): Reportable quantity = 1,000 (454) lbs. (kg)

SARA Section 311/312 Hazards:

Sodium hydroxide (1310-73-2): Immediate (acute) health hazard

SARA

Ingredient (name): none

State Regulations

Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65, State of California)

This product can not expose you to chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

16. Other information

Hazardous Materials Information Label (HMIS)

Health:	3
Flammability:	0
Physical Hazard:	0
Personal Protection:	C

NFPA Hazard Ratings

Health:	3
Flammability:	0
Reactivity:	0
Unique Hazard:	/

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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)

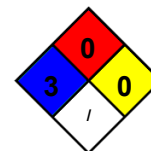
IMDG: International Maritime Code for Dangerous Goods

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



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CAS: Chemical Abstracts Service

LC50: Lethal concentration, 50%

LD50: Lethal dose, 50%

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.)