according to Regulation (EC) No 1907/2006

Remover PG								
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SECTION 1: Identification of the substance/mixture and of the company/undertaking								
1.1. Product identifier								
Remover PG								
Product group:	Remover							
1.2. Relevant identified uses of the	substance or mixture and uses advised agai	inst						
Use of the substance/mixture								
Sector of uses [SU]	[PC]: Coatings and paints, thinners, paint remo : Manufacture of computer, electronic and optica	· · · ·						
1.3. Details of the supplier of the s	afety data sheet							
Manufacturer								
Company name:	MicroChem Corporation							
Street:	200 Flanders Road							
Place:	USA-MA 01581 Westborough							
Telephone:	+1 617 965 5511	Telefax: +1 617 965 5818						
e-mail:	productsafety@microchem.com							
Internet:	www.microchem.com							
Supplier								
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							
<u>1.4. Emergency telephone</u> number:	Chemtrec (International): +1 703 527 3887	,						

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Indications of danger: R2 - Repr. Cat. 2, Xi - Irritant R phrases: May cause harm to the unborn child. Irritating to eyes, respiratory system and skin.

GHS classification

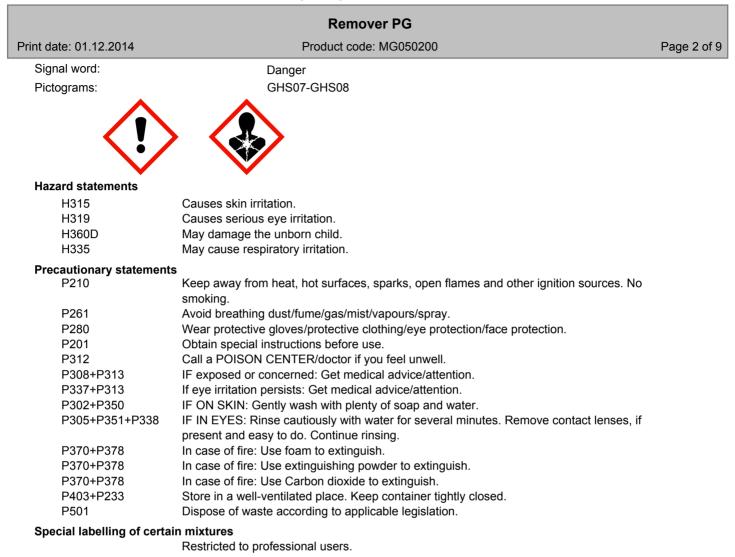
Hazard categories: Reproductive toxicity: Repr. 1B Serious eye damage/eye irritation: Eye Irrit. 2 Specific target organ toxicity - single exposure: STOT SE 3 Skin corrosion/irritation: Skin Irrit. 2 Hazard Statements: May damage the unborn child. Causes serious eye irritation. May cause respiratory irritation. Causes skin irritation.

2.2. Label elements

Hazardous components which must be listed on the label

N-methyl-2-pyrrolidone; 1-methyl-2-pyrrolidone

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2.3. Other hazards

This substance does not meet the criteria for classification as PBT or vPvB.

SECTION 3: Composition/information on ingredients

3.1. Substances

Hazardous components

EC No	Chemical name	Quantity
CAS No	Classification	
Index No	GHS classification	
REACH No		
212-828-1	N-methyl-2-pyrrolidone; 1-methyl-2-pyrrolidone	>99 %
872-50-4	Repr. Cat. 2, Xi - Irritant R61-36/37/38	
606-021-00-7	Repr. 1B, Eye Irrit. 2, STOT SE 3, Skin Irrit. 2; H360D *** H319 H335 H315	

Full text of R and H phrases: see Section 16.

Further Information

It is a substance in a concentration equal to or greater contain 0.1 wt%, which is listed on the candidate list according to Article 59 (1.10) of the REACH Regulation EC No 1907/2006 N-Methyl-2-pyrrolidon EINECS 212-828-1

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CAS 872-50-4

SECTION 4: First aid measures

4.1. Description of first aid measures

After inhalation

Provide fresh air. When in doubt or if symptoms are observed, get medical advice.

After contact with skin

After contact with skin, wash immediately with polyethylene glycol, followed by plenty of water. Take off immediately all contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical advice/attention.

After contact with eyes

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.

After ingestion

Observe risk of aspiration if vomiting occurs. Rinse mouth immediately and drink plenty of water.

4.2. Most important symptoms and effects, both acute and delayed

No information available.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Water spray jet, Carbon dioxide (CO2), Foam, Extinguishing powder.

Unsuitable extinguishing media

High power water jet.

5.2. Special hazards arising from the substance or mixture

Flammable. Vapours can form explosive mixtures with air.

5.3. Advice for firefighters

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

Additional information

Use water spray jet to protect personnel and to cool endangered containers. Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Remove all sources of ignition. Provide adequate ventilation. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment.

6.2. Environmental precautions

Do not allow uncontrolled discharge of product into the environment. Danger of explosion.

6.3. Methods and material for containment and cleaning up

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

6.4. Reference to other sections

Safe handling: see section 7 Personal protection equipment: see section 8 Disposal: see section 13

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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed. Keep in a cool, well-ventilated place. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Advice on storage compatibility

Do not store together with: Oxidising agent. Pyrophoric or self-heating substances.

7.3. Specific end use(s)

No data available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

CAS No	Substance	ppm	mg/m³	fibres/ml	Category	Origin
872-50-4	1-Methyl-2-pyrrolidone	10	40		TWA (8 h)	WEL
		20	80		STEL (15 min)	WEL

Additional advice on limit values

No data available

8.2. Exposure controls



Appropriate engineering controls

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray.

Protective and hygiene measures

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat or drink.

Eye/face protection

Suitable eye protection: goggles.

Hand protection

Tested protective gloves are to be worn: 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

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	of supply: www.kcl.de	
Suitable material: N Thickness of glove penetration time (m Recommended pro	occasional contact (splashes): IR (Natural rubber (Caoutchouc), Natural latex). material: 0.6 mm aximum wearing period): > 60 min tective gloves brand: KCL 706 Lapren, Manufacturer: KCL GmbH, D-36124 of supply: www.kcl.de	
	es, it is recommended to check the resistance to chemicals of the protective glov ogether with the supplier of these gloves.	es
Skin protection		
For the protection a usual working cloth Respiratory protection	against direct skin contact, body protective clothing is essential (in addition to the es).	
	ion necessary at: aerosol or mist generation. Filtering device (full mask or Iter: A	
Environmental exposure contr		
ECTION 9: Physical and chen	nical properties	
1. Information on basic physical	and chamical properties	
Physical state:	liquid	
Colour:	light yellow	
Odour:	like: Amines	
	Test method	
pH-Value (at 20 °C):	> 7	
Changes in the physical state		
Melting point:	not determined	
Initial boiling point and boiling ra		
Flash point:	86 °C	
Explosive properties		
not determined		
Lower explosion limits:	1,3 vol. %	
Upper explosion limits:	9,5 vol. %	
Ignition temperature:	245 °C	
Auto-ignition temperature		
Solid:	not applicable	
Gas:	not applicable	
Decomposition temperature:	not determined	
Oxidizing properties		
not determined		
Vapour pressure: (at 20 °C)	0,43 hPa	
Vapour pressure:	1,33 hPa	
(at 40 °C) Density (at 25 °C):	1,03 g/cm³	
Bulk density:	not applicable	
Duik density.		

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Water solubility:	completely miscible	
Solubility in other solvents not determined Partition coefficient:	not determined	
Viscosity / dynamic: (at 20 °C)	not determined	
Viscosity / kinematic: (at 40 °C)	not determined	
Flow time:	not determined	
Vapour density:	not determined	
Evaporation rate:	not determined	
Solvent separation test:	not determined	
2 Other information		

9.2. Other information

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

No data available

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

No known hazardous reactions.

10.4. Conditions to avoid

UV-radiation/sunlight. heat. Take precautionary measures against static discharge.

10.5. Incompatible materials

Oxidizing agents. Strong acid

10.6. Hazardous decomposition products

Carbon monoxide. Carbon dioxide. Nitrogen oxides (NOx).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity

Chemical name						
Exposure routes	Method	Dose	Species	Source		
N-methyl-2-pyrrolidone; 1-methyl-2-pyrrolidone						
		3600 mg/kg	Rat	IUCLID		
		8000 mg/kg	Rabbit	IUCLID		
nhalative (4 h) vapour	LC50 5,1 mg/l	5,1 mg/l	Rat	IUCLID		
	Exposure routes N-methyl-2-pyrrolidone; 1-methyl-2-p oral Iermal	Exposure routes Method N-methyl-2-pyrrolidone; 1-methyl-2-pyrrolidone oral LD50 Iermal LD50	Exposure routes Method Dose N-methyl-2-pyrrolidone; 1-methyl-2-pyrrolidone oral LD50 3600 mg/kg lermal LD50 8000 mg/kg	Exposure routes Method Dose Species N-methyl-2-pyrrolidone; 1-methyl-2-pyrrolidone oral LD50 3600 mg/kg Rat lermal LD50 8000 mg/kg Rabbit		

Irritation and corrosivity

Irritating to eyes and skin.

Sensitising effects

No information available.

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STOT-single exposure

May cause respiratory irritation.

Severe effects after repeated or prolonged exposure

No information available.

Carcinogenic/mutagenic/toxic effects for reproduction

May damage the unborn child.

Aspiration hazard

No information available.

SECTION 12: Ecological information

12.1. Toxicity

The information about ecology refers to the main components. Do not allow uncontrolled discharge of product into the environment.

CAS No	S No Chemical name						
	Aquatic toxicity	Method	Dose	[h] [d]	Species	Source	
872-50-4	N-methyl-2-pyrrolidone; 1-methyl-2-pyrrolidone						
	Acute fish toxicity	LC50	832 mg/l	96 h	Lepomis macrochirus	IUCLID	
	Acute algae toxicity	ErC50	> 500 mg/l	72 h	Scenedesmus subspicatus	IUCLID	
	Acute crustacea toxicity	EC50	ca. 4897 mg/l	48 h	Daphnia magna	IUCLID	

12.2. Persistence and degradability

No information available.

12.3. Bioaccumulative potential

No information available.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
872-50-4	N-methyl-2-pyrrolidone; 1-methyl-2-pyrrolidone	-0,54 (25° C)

12.4. Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

This substance does not meet the criteria for classification as PBT or vPvB.

12.6. Other adverse effects

No information available.

Further information

Do not allow uncontrolled leakage of product into the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Advice on disposal

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.

Waste disposal number of waste from residues/unused products

160305 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; off-specification batches and unused products; organic wastes containing dangerous substances Classified as hazardous waste.

Classified as nazardous waste

Waste disposal number of used product

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080111	(PAINTS, VARNISHES AND								
Waste disp	Waste disposal number of contaminated packaging								
150110	CLOTHING NOT OTHERWIS	RBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE SE SPECIFIED; packaging (including separately collected municipal containing residues of or contaminated by dangerous substances ie.							
Contamina	ted packaging								
	Dispose of waste according to Consult the local waste dispo	o applicable legislation. sal expert about waste disposal.							
SECTION 14	Transport information								
Land transpor	t (ADR/RID)								
Other appl	icable information (land trans No dangerous good in sense								
Marine transp	ort (IMDG)								
Other appl	icable information (marine tra No dangerous good in sense								
Air transport (ICAO)								
Other appl	icable information (air transpo No dangerous good in sense								
14.5. Environn	nental hazards								
ENVIRON	IENTALLY HAZARDOUS:	no							
<u>14.6. Special p</u>	orecautions for user No data available								
<u>14.7. Transpo</u>		II of MARPOL73/78 and the IBC Code							
	not applicable								
SECTION 15	Regulatory information								
<u>15.1. Safety, h</u>	ealth and environmental regu	lations/legislation specific for the substance or mixture							
EU regulate	ory information								
1999/13/EC	C (VOC):	100 % (1030 g/l)							
Additional	information								
		ration equal to or greater contain 0.1 wt%, which is listed on the candidate 10) of the REACH Regulation EC No 1907/2006							
National re	gulatory information								
Employmer	nt restrictions:	Observe employment restrictions for young people. Observe employment restrictions for child bearing mothers and nursing.	:						
Water conta	aminating class (D):	1 - slightly water contaminating							
<u>15.2. Chemica</u>	I safety assessment								
	For this substance a chemica	I safety assessment has not been carried out							

For this substance a chemical safety assessment has not been carried out.

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SECTION 16: Other information

Changes

chapter: 1; 2; 3; 4; 6; 7; 8; 9; 10; 11; 12; 13; 14; 15; 16

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%

Full text of R phrases referred to under Sections 2 and 3

36/37/38 Irritating to eyes, respiratory system and skin.

61 May cause harm to the unborn child.

Full text of H statements referred to under Sections 2 and 3

H315 Causes skin irritation. H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

H360D May damage the unborn child.

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.