

1 Identification of the substance/mixture and of the company

- **Product identifier**
- **Trade name:** MMA(8.5)MAA Copolymer Series Resists
- **Product number:**
M310002, M310003, M310004, M310005, M310006, M310007, M310008, M310009, M310010, M310011, M310012, M310512, M310013, M310014, M310015
- **Application of the substance / the preparation** Photoresist
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
MicroChem Corp
90 Oak Street, PO Box 426
Newton, MA 02464-0002
- **Information department:**
Product Safety
Email: productsafety@microchem.com
- **Emergency telephone number:**
MicroChem Corp : 617-965-5511
Chemtrec USA Emergency : 800-424-9300
Chemtrec International Emergency : 703-527-3887

2 Composition/information on ingredients

- **Chemical characterization:** Mixtures
- **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**

97-64-3	ethyl lactate	 H226;  H318;  H335	75-100%
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· **Additional Components:**

25086-15-1	Poly(methylmethacrylate/methacrylic acid)		5-25%
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3 Hazards identification

- **Classification of the substance or mixture**



GHS02 Flame

H226 Flammable liquid and vapor.



GHS05 Corrosion

H318 Causes serious eye damage.



GHS07

H335 May cause respiratory irritation.

- **Label elements**

- **GHS label elements** The product is classified and labelled according to the Globally Harmonized System (GHS).

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· Hazard pictograms



GHS02 GHS05 GHS07

· Signal word *Danger*

· Hazard-determining components of labelling:

ethyl lactate

· Hazard statements

*H226 Flammable liquid and vapor.**H318 Causes serious eye damage.**H335 May cause respiratory irritation.*

· Precautionary statements

*P101 If medical advice is needed, have product container or label at hand.**P102 Keep out of reach of children.**P103 Read label before use.**P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.**P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.**P310 Immediately call a POISON CENTER or doctor/physician.**P405 Store locked up.**P501 Dispose of contents/container in accordance with local/regional/national/international regulations.*

· Classification system:

· NFPA ratings (scale 0 - 4)

*Health = 2**Fire = 2**Reactivity = 0*

· HMIS-ratings (scale 0 - 4)

*Health = 2**Fire = 2**Reactivity = 0***4 First aid measures**

· After inhalation:

*Supply fresh air or oxygen; call for doctor.**In case of unconsciousness place patient stably in side position for transportation.*

· After skin contact:

*Immediately wash with water and soap and rinse thoroughly.**If skin irritation continues, consult a doctor.*

· After eye contact: Rinse opened eye for several minutes under running water and then consult a doctor.

· After swallowing: Seek medical treatment.

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5 Firefighting measures

- **Suitable extinguishing agents:** CO₂, sand, extinguishing powder. Do not use water.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Protective equipment:** Wear SCBA.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Ensure adequate ventilation.
Do not flush with water or aqueous cleansing agents
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaust at the workplace.
Prevent formation of aerosols.
- **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
- **Storage:**
- **Requirements to be met by storerooms and containers:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep container tightly sealed.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Components with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from food and beverages.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes.
- **Respiratory equipment:**
In case of low exposure, use cartridge respirator. In case of intensive or longer exposure, use SCBA.

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· Protection of hands:



Protective gloves

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves** Rubber gloves
- **Penetration time of glove material** Contact glove manufacture for break-through time.
- **Eye protection:**



Tightly sealed goggles

9 Physical and chemical properties

· General Information

· Appearance:

· Form:	Fluid
· Color:	Clear
· Odor:	Mild
· Odour threshold:	Not determined.

· **pH-value:** Not determined.

· Change in condition

· Melting point/Melting range:	Undetermined.
· Boiling point/Boiling range:	154°C (309 °F)

· **Flash point:** 55°C (131 °F)· **Flammability (solid, gaseous):** Not applicable.· **Ignition temperature:** 400°C (752 °F)· **Decomposition temperature:** Not determined.· **Auto igniting:** Product is not selfigniting.· **Danger of explosion:** Not determined.

· Explosion limits:

· Lower:	1.0 Vol %
· Upper:	17.0 Vol %

· **Vapor pressure at 20°C (68 °F):** 2 hPa (2 mm Hg)· **Density:** Not determined.· **Relative density** Not determined.· **Vapour density** Not determined.· **Evaporation rate** Not determined.

· Solubility in / Miscibility with

· **Water:** Not miscible or difficult to mix.· **Segregation coefficient (n-octanol/water):** Not determined.

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- **Viscosity:**
- Dynamic:** Not determined.
- Kinematic:** Not determined.
- **Other information** No further relevant information available.

10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** Strong irritant with the danger of severe eye injury.
- **Sensitization:** No sensitizing effects known.

12 Ecological information

- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 1 (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
Must not be disposed of as regular garbage/trash. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made in accordance with Federal, State, and Local regulations.


14 Transport information


- **UN-Number**
- **DOT** NA1866
- **ADR, IMDG, IATA** UN1866
- **UN proper shipping name**
- **DOT, IMDG, IATA** RESIN SOLUTION

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· ADR	1866 RESIN SOLUTION
· Transport hazard class(es)	
· DOT	
	
· Class	3 Flammable liquids.
· Label	3

· ADR, IMDG, IATA	
	
· Class	3 Flammable liquids
· Label	3
· Packing group	
· DOT, ADR, IMDG, IATA	III
· Environmental hazards:	
· Marine pollutant:	No
· Special precautions for user	Warning: Flammable liquids
· Danger code (Kemler):	30
· EMS Number:	F-E,S-E
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· UN "Model Regulation":	UN1866, RESIN SOLUTION, 3, III

15 Regulatory information

· Sara	
· Section 355 (extremely hazardous substances):	None of the ingredients is listed.
· Section 313 (Specific toxic chemical listings):	None of the ingredients is listed.
· TSCA (Toxic Substances Control Act):	All ingredients are listed or comply with TSCA regulations.
· Proposition 65	
· Chemicals known to cause cancer:	None of the ingredients are listed.
· Chemicals known to cause reproductive toxicity for females:	None of the ingredients is listed.
· Chemicals known to cause reproductive toxicity for males:	None of the ingredients is listed.

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· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogenic categories**· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

· **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

· **TLV (Threshold Limit Value established by ACGIH)**

None of the ingredients is listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

· **GHS label elements** The product is classified and labelled according to the Globally Harmonized System (GHS).· **Hazard pictograms**

GHS02 GHS05 GHS07

· **Signal word** Danger· **Hazard-determining components of labelling:**

ethyl lactate

· **Hazard statements**

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16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing MSDS:** Product safety department

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· Contact: Mr. Bedet**· Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organization

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

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

USA