1 Identification of the substance/mixture and of the company

- Trade name: **950 PMMA Series Resists in Anisole**
- Product number:
  - M230001, M230002, M230003, M230004, M230504, M230005, M230505, M230006, M230007, M230008, M230009, M230010, M230011, M230012, M230013, M230015
- Application of the substance / the preparation: Photoresist
- 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:
  - 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.

<table>
<thead>
<tr>
<th>Dangerous components:</th>
<th>100-66-3</th>
<th>anisole</th>
<th>H226; H303</th>
<th>80-100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Additional Components:</td>
<td>9011-14-7</td>
<td>Poly(methylmethacrylate)</td>
<td></td>
<td>1-20%</td>
</tr>
</tbody>
</table>

3 Hazards identification

- Classification of the substance or mixture
  - GHS02 Flame
  - H226 Flammable liquid and vapour.
  - H303 May be harmful if swallowed.
- Label elements
- GHS label elements: The product is classified and labelled according to the Globally Harmonized System (GHS).
- Hazard pictograms
  - GHS02

- Signal word: Warning
- Hazard statements:
  - H226 Flammable liquid and vapour.
  - H303 May be harmful if swallowed.

(Contd. on page 2)
Trade name: 950 PMMA Series Resists in Anisole

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.
- **P210**: Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
- **P241**: Use explosion-proof electrical/ventilating/lighting/equipment.
- **P280**: Wear protective gloves/protective clothing/eye protection/face protection.
- **P303+P361+P333**: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
- **P501**: Dispose of contents/container in accordance with local/regional/national/international regulations.

Classification system:
- **NFPA ratings (scale 0 - 4)**
  - Health = 1
  - Fire = 2
  - Reactivity = 0

- **HMIS-ratings (scale 0 - 4)**
  - Health = 1
  - Fire = 2
  - Reactivity = 0

4 First aid measures
- **After inhalation**: Supply fresh air; consult doctor in case of complaints.
- **After skin contact**: Immediately wash with water and soap and rinse thoroughly.
- **After eye contact**: Rinse opened eye for several minutes under running water.
- **After swallowing**: Seek medical treatment.

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). Do not flush with water or aqueous cleaning agents
- **Reference to other sections**: See Section 7 for information on safe handling.
  See Section 8 for information on personal protection equipment.
7 Handling and storage

- **Handling:**
- Precautions for safe handling: Use only in well ventilated areas.
- 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.
    Protect from exposure to the light.
- 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: Wash hands before breaks and at the end of work.
  - Respiratory equipment: Use suitable respiratory protective device in case of insufficient ventilation.
  - 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: PVC gloves
  - Penetration time of glove material: Contact glove manufacturer for break-through time.

- Eye protection:

  ![Tightly sealed goggles]

9 Physical and chemical properties

- General Information
- Appearance:
  - Form: Fluid
  - Color: Clear
    - Light yellow
  - Odor: Characteristic

(Contd. on page 4)
Trade name: 950 PMMA Series Resists in Anisole

(Contd. of page 3)

- Odour threshold: Not determined.
- pH-value: Not determined.
- Change in condition
  Melting point/Melting range: Undetermined.
  Boiling point/Boiling range: 184°C (363 °F)
- Flash point: 43°C (109 °F)
- Flammability (solid, gaseous): Not applicable.
- Ignition temperature: 475°C (887 °F)
- Decomposition temperature: Not determined.
- Auto igniting: Product is not selfigniting.
- Danger of explosion: Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
- Explosion limits:
  Lower: Not determined.
  Upper: Not determined.
- Vapor pressure at 20°C (68 °F): 0.4 hPa
- 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.

- Viscosity:
  Dynamic: Not determined.
  Kinematic: Not determined.
- Other information
<table>
<thead>
<tr>
<th>Name</th>
<th>Number</th>
<th>Sp.Grav.</th>
<th>Vol. (% by wt.)</th>
<th>VOC (g/L)</th>
</tr>
</thead>
<tbody>
<tr>
<td>950A1</td>
<td>M230001</td>
<td>0.994</td>
<td>99</td>
<td>985</td>
</tr>
<tr>
<td>950A2</td>
<td>M230002</td>
<td>0.996</td>
<td>98</td>
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<td>950A3</td>
<td>M230003</td>
<td>0.998</td>
<td>97</td>
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<td>M230004</td>
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<tr>
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<td>M230504</td>
<td>1.001</td>
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<td>958</td>
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<tr>
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<tr>
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<td>950A13</td>
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<td>950A15</td>
<td>M230015</td>
<td>1.022</td>
<td>85</td>
<td>870</td>
</tr>
</tbody>
</table>

(Contd. on page 5)
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: No irritating effect.
- 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 2 (Self-assessment): hazardous for water
  - Do not allow product to reach ground water, water course or sewage system.
  - Danger to drinking water if even small quantities leak into the ground.

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, ADR, IMDG, IATA: UN1866

- UN proper shipping name
- DOT, IMDG, IATA: RESIN SOLUTION, mixture
- ADR: 1866 RESIN SOLUTION, mixture
**Material Safety Data Sheet**

*Trade name: 950 PMMA Series Resist in Anisole*

- **Transport hazard class(es)**
  - DOT, IMDG, IATA

- **Class**
  - 3 Flammable liquids.

- **Label**
  - 3

- **ADR**

- **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-D

- **Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**
  - Not applicable.

- **UN "Model Regulation":**
  - UN1866, RESIN SOLUTION, mixture, 3, III

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**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.
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)**
  9011-14-7 Poly(methylmethacrylate)

- **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](image)

Signal word **Warning**

Hazard statements

H226 Flammable liquid and vapour.
H303 May be harmful if swallowed.

Precautionary statements

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**P102** Keep out of reach of children.
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**P303+P361+P353** IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
**P501** Dispose of contents/container in accordance with local/regional/national/international regulations.

**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
- **Contact**: Mr. Bedet

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)
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
Trade name: 950 PMMA Series Resists in Anisole

IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
ICAO: International Civil Aviation Organization
ACGIH: American Conference of Governmental Industrial Hygienists
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)