



1254 Chestnut Street  
Newton, MA 02464-1418  
Tel: (617) 965-5511  
Fax: (617) 965-5818

## MATERIAL SAFETY DATA SHEET

PAGE 1  
03 March 2005

### SECTION 1. CHEMICAL IDENTIFICATION -----

CHEMICAL NAME: Organic Polymer Solution  
TRADE NAME: 950 PMMA Series Resists in Anisole  
Positive Radiation Sensitive Resists  
PRODUCT #: See Table 1 – Section 9

### SECTION 2. COMPOSITION-----

HAZARDOUS  
INGREDIENTS: Anisole (CAS: 100-66-3); 85-99% (See Table 1 – Section 9)  
OTHER  
INGREDIENTS: Poly(methylmethacrylate) (CAS: 9011-14-7)

### SECTION 3. HAZARD DATA-----

INFLAMMABILITY: Flammable liquid.  
SKIN CONTACT: May cause skin irritation.  
EYE CONTACT: Vapor or mist is irritating to the eyes.  
INHALATION: Vapor or mist is irritating to mucous membranes and upper  
respiratory tract.  
MUTAGENICITY: Not known to be mutagenic.  
CARCINOGENICITY: Not known to be carcinogenic.  
TARGET ORGANS: Eyes, Skin, Respiratory System, and Nervous System.

### SECTION 4. FIRST AID MEASURES-----

INHALATION: Move the affected person away from the contaminated area and into  
the fresh air. If necessary seek medical advice.  
INGESTION: Rinse mouth out with water. Consult a doctor if necessary.  
SKIN CONTACT: Rinse with plenty of water.  
EYE CONTACT: Rinse with water while keeping the eyes wide open.

### SECTION 5. FIRE FIGHTING MEASURES-----

EXTINGUISHING MEDIA: Dry chemical, carbon dioxide.  
SPECIAL FIRE FIGHTING  
PRECAUTIONS: Wear self-contained breathing apparatus (SCBA) and  
personal protective equipment to prevent contact with skin  
and eyes.  
UNUSUAL FIRE OR  
EXPLOSION HAZARDS: Heat will build pressure and may rupture closed containers.  
Keep containers cool with water spray.

**MATERIAL SAFETY DATA SHEET**

PAGE 2  
03 March 2005

CHEMICAL NAME: Organic Polymer Solution  
TRADE NAME: 950PMMA Series Resists in Anisole  
Positive Radiation Sensitive Resists  
PRODUCT #: See Table 1 – Section 9

---

**SECTION 6. ACCIDENTAL RELEASE PROCEDURES**

---

**EVACUATION**

**PROCEDURES & SAFETY:** Wear appropriate protective gear for the situation. See Personal Protection information in Section 8. Eliminate all sources of ignition. Do not breathe vapors or dust.

**CLEANUP & DISPOSAL  
OF SPILL:**

Absorb with an inert absorbent. Sweep up and place in an appropriate closed container. Use clean, non-sparking tools to collect absorbed material.

**ENVIRONMENTAL &**

**REGULATORY REPORTING:** Do not flush to drain. If required proper authorities should be notified.

**SECTION 7. STORAGE AND HANDLING PRECAUTIONS**

---

**STORAGE:** Store in tightly closed container in a cool, dry, well-ventilated environment away from ignition sources.

**HANDLING:** Use only under yellow light.  
Keep away from heat, sparks, and flames.  
Use only with mechanical exhaust.  
Do not contact with skin, eyes, and clothing.  
Avoid prolonged or repeated contact with skin.  
Do not breathe vapors or mist.  
Wash with soap and water after handling.  
Have safety shower and eye wash available.  
Store and transfer under a blanket of dry inert gas.

**SECTION 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION**

---

**RESPIRATORY  
PROTECTION:**

Under normal conditions, use of air-purifying (half-mask/full-face) respirator with cartridges/canisters approved for use against organic vapors, dust, mists and fumes is recommended.

**VENTILATION:**

General area dilution/exhaust ventilation.

**SKIN PROTECTION:**

PVC protective gloves are highly recommended.

**EYE PROTECTION:**

Safety goggles are highly recommended.

**MATERIAL SAFETY DATA SHEET**PAGE 3  
03 March 2005

CHEMICAL NAME: Organic Polymer Solution  
TRADE NAME: 950PMMA Series Resists in Anisole  
Positive Radiation Sensitive Resists  
PRODUCT #: See Table 1 – Section 9

---

**SECTION 9. PHYSICAL AND CHEMICAL DATA**

---

APPEARANCE: Clear to straw colored liquid  
ODOR: Strong  
BOILING POINT: 154 °C (309 °F)  
SPECIFIC GRAVITY: See Table 1 below  
VAPOR PRESSURE: 13 mm @ 42 °C (108 °F)  
VAPOR DENSITY: 3.7 (air=1)  
H<sub>2</sub>O SOLUBILITY: Slightly soluble.  
% VOLATILES: See Table 1 below  
EVAPORATION RATE: 0.1 (BuAc=1)  
FLASH POINT: 44 °C (111 °F) CC  
AUTOIGNITION TEMP: 475 °C (887 °F)  
EXPLOSION LIMITS: unk. Lower  
unk. Upper

**Table 1**

Name	Product #	Specific Gravity	Volatiles (% by wt.)	VOC (g/L)
950A1	M230001	0.994	99	985
950A2	M230002	0.996	98	975
950A3	M230003	0.998	97	970
950A4	M230004	1.000	96	960
950A4.5	M230504	1.001	95.5	958
950A5	M230005	1.004	95	955
950A5.5	M230505	1.004	94.5	950
950A6	M230006	1.005	94	945
950A7	M230007	1.007	93	935
950A8	M230008	1.009	92	930
950A9	M230009	1.010	91	920
950A10	M230010	1.012	90	910
950A11	M230011	1.014	89	900
950A12	M230012	1.016	88	895
950A13	M230013	1.018	87	885
950A15	M230015	1.022	85	870

**SECTION 10. REACTIVITY DATA**

---

STABILITY: Stable  
INCOMPATIBILITY: Strong Oxidizing Agents, Strong Acids, Strong Bases  
HAZARDOUS COMBUSTION OR  
DECOMPOSITION PRODUCTS: Carbon Monoxide, Carbon Dioxide, Phenol

**MATERIAL SAFETY DATA SHEET**

PAGE 4  
03 March 2005

CHEMICAL NAME: Organic Polymer Solution  
TRADE NAME: 950PMMA Series Resists in Anisole  
Positive Radiation Sensitive Resists  
PRODUCT #: See Table 1 – Section 9

---

**SECTION 11. TOXICITY HAZARDS**

---

**ACUTE TOXICITY:**

As Anisole:

ORAL: LD50 (rat): 3700 mg/kg

SKIN: LD50 (rat): >5000 mg/kg

LOCAL EFFECTS: Slightly irritating to the skin. Not irritating to rabbits on ocular application. No sensitizing reaction was observed for guinea pigs.

**SECTION 12. ECOLOGICAL DATA**

---

BIODEGRADABILITY: Readily biodegradable.  
BIOACCUMULATION: Not potentially bioaccumulable.  
ECOTOXICITY: EC50 (Daphnia/24 hr): 40 mg/l

**SECTION 13. DISPOSAL CONSIDERATIONS**

---

Comply with applicable local, state or international regulations regarding the proper disposal of this material and/or containers.

**SECTION 14. TRANSPORTATION INFORMATION**

---

HAZARD CLASSIFICATION: Flammable Liquid  
SHIPPING NAME: Resin Solution  
UN NUMBER: UN 1866  
PACKING GROUP III

**SECTION 15. REGULATORY INFORMATION**

---

**EUROPEAN INFORMATION**

**EINECS LISTED**

EC Nos: Anisole 202-876-1

**RISK & SAFETY PHRASES**

R10 Flammable

S16 Keep away from sources of ignition. No smoking.

S24 Avoid contact with skin.

**INDICATIONS OF DANGER**

None

**MATERIAL SAFETY DATA SHEET**

PAGE 5  
03 March 2005

CHEMICAL NAME: Organic Polymer Solution  
TRADE NAME: 950PMMA Series Resists in Anisole  
Positive Radiation Sensitive Resists  
PRODUCT #: See Table 1 – Section 9

---

**US AND INTERNATIONAL INFORMATION**

HAZARDOUS LISTINGS: All ingredients appear on the TSCA Inventory of Chemical Substances, EINECS, Canadian DSL and the Japan ENCS Listing.  
SARA Title III: This product IS NOT subject to SARA Title III, Section 313 Reporting Requirements.

Calif. SCAQMD Rule 443.1 VOC's: See Table 1 – Section 9

**SECTION 16. ADDITIONAL PRECAUTIONS AND COMMENTS**

---

National Fire Protection Association Hazard Ratings – NFPA:

- 1 Health Hazard Rating
- 2 Flammability Rating
- 0 Reactivity Rating

To the best of our knowledge, the above information is believed to be accurate but does not claim to be all-inclusive and is intended to be used only as a guide. The supplier makes no warranty of any kind, expressed or implied, concerning the use of this product and shall not be held liable for any damage resulting from handling or from contact with the above product. User assumes all risks incident to its use.

MSDS Revision Information:

- A) Removed “NANO” name from trade name.
- B) General update of MSDS. Added European Risk and Safety phrases to Section 15.