

**MICRO • CHEM**  
**SAFETY DATA SHEET**

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**SECTION 1. PRODUCT AND COMPANY IDENTIFICATION** -----

PRODUCT USE: Organic Resin Solution  
TRADE NAME: SU-8 2000 Series Resists  
PRODUCT #: See Table 1 – Section 9

SUPPLIER: MicroChem Corporation  
90 Oak Street, PO Box 426  
Newton, MA 02464-0002

TELEPHONE: (617) 965-5511  
FAX: (617) 965-5818  
CHEMTREC USA  
EMERGENCY #: (800) 424-9300  
CHEMTREC INTL  
EMERGENCY #: (703) 527-3887  
MSDS DATE: 06 November 2008  
REVISION DATE: 13 April 2009

**SECTION 2. HAZARDS IDENTIFICATION** -----

**Hazardous Classification**

Acute hazards aquatic env – Category 2  
Acute toxicity (oral) - Category 4  
Acute toxicity (inhalation – gas/vapour) – Category 4  
Flammable liquids - Category 3  
Germ cell mutagenicity – Category 2  
Serious eye damage/eye irritation - Category 2A  
Skin corrosion/irritation - Category 2  
Skin Sensitizer – Category 1  
Target organ systemic toxicant single exp - Category 3



Signal Word: **WARNING!**

**Hazards**

Toxic to aquatic life.  
Flammable liquid and vapour  
Causes serious eye irritation.  
Causes skin irritation.  
Harmful if inhaled.  
Harmful if swallowed.  
May cause an allergic skin reaction.  
May cause drowsiness and dizziness.  
May cause respiratory irritation.  
Suspected of causing genetic defects.

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## Precautions

Avoid release to the environment.  
Use only outdoors or in a well-ventilated area.  
Do not breathe mist or vapors.  
Do not eat, drink or smoke when using this product.  
Wash hands thoroughly after handling.  
Keep away from heat, sparks and open flame. - No smoking.  
Use explosion-proof equipment.  
Wear protective gloves and eye/face protection.  
Take precautionary measures against static discharge.  
In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.  
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.  
Take off contaminated clothing as wash before re-use.  
Contaminated clothing should not be allowed out of the workplace.  
Rinse mouth.  
Call a POISON CENTRE or doctor/physician if you feel unwell.  
Is skin irritation or rash occurs, seek medical advice/attention.  
Use extinguishing measures that are appropriate to local circumstances

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

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INGREDIENTS: Cyclopentanone (CAS: 120-92-3); 23-96%.  
Mixed Triarylsulfonium/ Hexafluoroantimonate Salt;  
(CAS: 89452-37-9)/(CAS: 71449-78-0); 0.3-5%  
Propylene Carbonate (CAS: 108-32-7); 0.3-5%  
Epoxy Resin (CAS: 28906-96-9); 3-75%

## SECTION 4. FIRST AID MEASURES

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INHALATION: If respiratory irritation or distress occurs remove victim to fresh air and seek medical attention.  
INGESTION: Do not induce vomiting unless instructed to do so by a physician. Wash out mouth with water and keep at rest. Seek immediate medical attention.  
SKIN CONTACT: In case of contact, immediately wash with plenty of soap and water for at least 15 minutes. Seek medical attention. Remove contaminated clothing and shoes. Clean contaminated clothing and shoes before re-use.  
EYE CONTACT: Hold eyelids open and flush with a steady, gentle stream of water for at least 15 minutes. Seek medical attention.

## SECTION 5. FIRE-FIGHTING MEASURES

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### EXTINGUISHING

MEDIA: Dry chemical, carbon dioxide, alcohol foam, and universal foam.

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## SPECIAL FIRE FIGHTING PRECAUTIONS:

Firefighters should wear NIOSH/MSHA approved self-contained breathing apparatus and full protective clothing. Remove all ignition sources if it can be done safely.

## UNUSUAL FIRE OR EXPLOSION HAZARDS:

Product will burn under fire conditions. Containers may explode (due to build-up of pressure) when exposed to extreme heat. Vapors may travel a considerable distance to a source of ignition and flash back along vapor trail.

## SECTION 6. ACCIDENTAL RELEASE MEASURES

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### EVACUATION

PROCEDURES & SAFETY: Wear appropriate protective gear for the situation. See Personal Protection information in Section 8.

### CLEANUP & DISPOSAL OF SPILL:

Absorb with an inert absorbent. Sweep up and place in an appropriate closed container (see Section 7). Clean up residual material by washing area with water. Collect washings for disposal.

### ENVIRONMENTAL &

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

## SECTION 7. HANDLING AND STORAGE

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PRECAUTIONS: Store container tightly closed in well-ventilated place.

STORAGE: Store in tightly closed container in a cool, dry, well-ventilated environment away from direct sunlight and ignition sources. Recommended container materials are polyethylene or glass.

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. Severe eye irritant.  
Avoid prolonged or repeated contact with skin.  
Do not breathe vapors or mist.  
Wear heavy rubber gloves.  
Wash with soap and water after handling.  
Have safety shower and eye wash available.

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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### OCCUPATIONAL

EXPOSURE LIMITS: None Established

### RESPIRATORY PROTECTION:

When respirators are required, select NIOSH/MSHA approved equipment based on actual or potential airborne concentrations and in

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accordance with the appropriate regulatory standards and/or industrial recommendations.

VENTILATION: General area dilution/exhaust ventilation.

SKIN PROTECTION: Skin contact should be minimized through the use of gloves and suitable long-sleeved clothing.

EYE PROTECTION: Eye contact should be prevented through use of chemical safety glasses with side shields or splash proof goggles.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES-----

APPEARANCE: Pale yellow to clear  
 ODOR: Slightly sweet  
 BOILING POINT: 130 °C (266 °F)  
 SPECIFIC GRAVITY: see Table 1  
 VAPOR PRESSURE: 8.7 mm @ 20 °C (68 °F)  
 H<sub>2</sub>O SOLUBILITY: Slightly soluble  
 % VOLATILES: see Table 1  
 EVAPORATION RATE: 1 (BuAc=1)  
 FLASH POINT: 30 °C (86 °F) TCC  
 AUTOIGNITION TEMP: 550 °C (1022 °F)  
 FLAMMABILITY LIMITS: 1.3 lower (vol./vol. %)  
 Unk. upper  
 SbF<sub>6</sub> Salt (% by wt): see Table 1  
 Sb (% by wt): see Table 1

**Table 1**

Name	Product#	Specific Gravity	Volatiles (% by wt.)	VOC (g/L)	SbF <sub>6</sub> Salt (% by wt)	Sb (% by wt)
SU-8 2000.1	Y111004	1.00	94-98	960	<1.0 %	<1.0 %
SU-8 2000.2	Y111007	1.00	90-95	930	<1.0 %	<1.0 %
SU-8 2000.5	Y111014	1.07	85-90	920	<1.0 %	<1.0 %
SU-8 2001	Y111022	1.100	80-85	860	1.1	<1.0 %
SU-8 2002	Y111029	1.123	70-75	800	1.4	<1.0 %
SU-8 2005	Y111045	1.164	50-55	640	2.2	<1.0 %
SU-8 2007	Y111053	1.175	45-50	550	2.5	<1.0 %
SU-8 2010	Y111058	1.187	40-45	500	2.8	<1.0 %
SU-8 2015	Y111064	1.200	35-40	430	3.0	<1.0 %
SU-8 2025	Y111069	1.219	30-35	380	3.3	<1.0 %
SU-8 2035	Y111070	1.227	20-30	370	3.4	<1.0 %
SU-8 2050	Y111072	1.233	20-30	345	3.4	<1.0 %
SU-8 2075	Y111074	1.236	20-30	320	3.5	<1.0 %
SU-8 2100	Y111075	1.237	20-30	310	3.6	<1.0 %
SU-8 2150	Y111077	1.238	20-30	285	3.7	<1.0 %

## SECTION 10. STABILITY AND REACTIVITY-----

STABILITY: Stable

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INCOMPATIBILITY: Strong Oxidizing Agents, Strong Bases, Strong Acids, Strong Reducing Agents, Iron, Hydrazine  
HAZARDOUS POLYMERIZATION: May occur. Avoid extreme pH.  
HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS: Oxides of carbon.

#### SECTION 11. TOXICOLOGICAL INFORMATION

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**Routes of Entry:** Inhalation, ingestion, eye and skin contact

**Symptoms of Exposure:** Causes severe eye irritation. Causes skin irritation. May cause skin sensitization. May cause upper respiratory tract irritation, central nervous system depression, shortness of breath, drowsiness and confusion.

#### **Acute Toxicity**

##### **Acute Oral Toxicity**

Component: Cyclopentanone  
LD50 rat 1180 mg/kg  
Component: Propylene Carbonate  
LD50 rat 20,700 mg/kg  
Component: Epoxy Resin  
LD50 rat: >2,000 mg/kg

##### **Acute Dermal Toxicity**

Component: Cyclopentanone  
LD50 rabbit >5000 mg/kg  
Component: Propylene Carbonate  
LD50 Rabbit > 20,000 mg/kg  
Component: Epoxy Resin  
LD50 Rabbit >2,000 mg/kg

##### **Acute Inhalation Toxicity**

Component: Cyclopentanone  
LC50 rat 19.5 mg/l  
Component: Propylene Carbonate  
No data found  
Component: Epoxy Resin  
LC50 Rat >5.0 mg/l

#### **Specific Concentration Limits**

The values listed below represent the percentages of ingredients of unknown toxicity:  
5% Acute oral toxicity  
5% Acute dermal toxicity  
5% Acute inhalation toxicity

#### **Skin corrosion/irritation**

Component: Cyclopentanone  
Acute Skin Irritation: skin irritation, 500mg, rabbit. Mildly irritating

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Component: Propylene Carbonate  
Acute Skin Irritation: Moderate skin irritant  
Component: Mixed Triarylsulfonium/ Hexafluoroantimonate Salt  
Acute Skin Irritation: Slight skin irritation  
Component: Epoxy Resin  
Acute Skin Irritation: Skin irritant

#### **Serious eye damage/eye irritation**

Component: Cyclopentanone  
Acute Eye Irritation: eye irritation, 100mg, rabbit. Severely irritating.  
Component: Propylene Carbonate  
Acute Eye Irritation: Moderate eye irritation  
Component: Mixed Triarylsulfonium/ Hexafluoroantimonate Salt  
Acute Eye Irritation: Eye Irritant  
Component: Epoxy Resin  
Acute Eye Irritation: Eye Irritant

#### **Respiratory or Skin Sensitisation**

Component: Cyclopentanone  
Skin sensitization – guinea pig – not a sensitizer  
Skin sensitization – human – not a sensitizer  
Component: Propylene Carbonate  
Skin sensitization - Did not induce skin sensitization in human patch tests.  
Component: Mixed Triarylsulfonium/ Hexafluoroantimonate Salt  
Skin sensitization: May cause skin sensitization  
Component: Epoxy Resin  
Skin sensitization: May cause skin sensitization

#### **Carcinogenicity**

Component: Cyclopentanone  
Not considered carcinogenic by NTP, IARC, ACGIH or OSHA.

#### **Germ Cell Mutagenicity**

Component: Cyclopentanone  
Ames Test – negative with and without metabolic activation  
Component: Mixed Triarylsulfonium/ Hexafluoroantimonate Salt  
Ames Test - This material was mutagenic in the Ames bacterial assay. It is inactive, however, in the in vivo mouse micronucleus test.  
Component: Epoxy Resin  
Ames Test – This material was mutagenic in the Ames bacterial assay.

#### **Specific Target Organ Systemic Toxicity (single exposure)**

Component: Cyclopentanone  
Central Nervous system

#### **Specific Target Organ Systemic Toxicity (repeated exposure)**

Component: Cyclopentanone  
Central Nervous System

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**Toxicity to Reproduction**

Component: Cyclopentanone

No adverse effects to reproduction or adverse developmental effects known.

**Aspiration Hazards**

No data found.

**SECTION 12. ECOLOGICAL INFORMATION**

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**Acute aquatic toxicity****Acute toxicity to fish**

Component: Cyclopentanone

48 hr LC50 *Leuciscus idus melanotus*: 2950 mg/L

Component: Propylene Carbonate

96-h LC50 (*Cyprinus Carpi*): >1000 mg/L

Component: Epoxy Resin

LC50 >100 mg/L (estimated)

**Acute toxicity to aquatic invertebrates**

Component: Cyclopentanone

24 hr EC50 *Daphnia magna*: 1435 mg/L

Component: Propylene Carbonate

48 hr EC50 *Daphnia magna*: >500 mg/L

Component: Epoxy Resin

LC50 >100 mg/L (estimated)

**Acute toxicity to algae**

Component: Cyclopentanone

72 hr EC50 *Scenedesmus subspicatus* >100 mg/l

Component: Propylene Carbonate

72 hr EC50 green algae >500 mg/l

Component: Epoxy Resin

LC50 >100 mg/L (estimated)

**Specific concentration limits**

The values listed below represent the percentages of ingredients of unknown toxicity.

5% Acute aquatic toxicity – fish

5% Acute aquatic toxicity – aquatic invertebrates

5% Acute aquatic toxicity - algae

**Chronic aquatic toxicity**

Component: Mixed Triarylsulfonium/ Hexafluoroantimonate Salt-Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Avoid release to the environment.

**Chronic toxicity to fish**

No data found

**Chronic toxicity to aquatic invertebrates**

No data found

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**Chronic toxicity to algae**

No data found

**Persistence/Degradability**

Component: Cyclopentanone  
Inherently biodegradable  
Component: Epoxy Resin  
Expected to not be readily biodegradable

**Bioaccumulation**

Component: Cyclopentanone  
Not expected to bioaccumulate  
Component: Epoxy Resin  
Has the potential to bioaccumulate

**Mobility**

Component: Cyclopentanone  
No data found

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**SECTION 13. DISPOSAL CONSIDERATIONS**

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**Precautions**

CONTAINERS MAY BE HAZARDOUS WHEN EMPTY. Since emptied containers retain product residue follow all MSDS and label warnings even after container is emptied. Dispose of contents/container in accordance with local regulation.

**Disposal**

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

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**SECTION 14. TRANSPORTATION INFORMATION**

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

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**SECTION 15. REGULATORY INFORMATION**

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**US AND INTERNATIONAL INFORMATION**

Chemical Inventories: TSCA (US) – Components are listed or comply with TSCA regulations.  
EINECS/ELINCS/NLP (EU) – Components are listed or exempt.  
China – Components are listed or comply with inventory requirements.  
Japan – Components are listed or comply with inventory requirements.  
DSL/NDSL (Canada) – Components are listed.



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AICS (Australia) – Components are listed or comply with inventory requirements.

Korea - Components are listed or comply with inventory requirements.

SARA Title III: This product contains a chemical subject to SARA Title III, Section 313 Reporting Requirements:

Mixed Triarylsulfonium/ Hexafluoroantimonate Salt;  
(CAS: 89452-37-9)/(CAS: 71449-78-0)

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

### SECTION 16. OTHER INFORMATION

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National Fire Protection Association Hazard Ratings – NFPA:

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

For additional information contact: [productsafety@microchem.com](mailto:productsafety@microchem.com)

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: REVISED Toxicological information for epoxy resin. Updated GHS classification.