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MATERIAL SAFETY DATA SHEET

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SECTION 1. CHEMICAL IDENTIFICATION -----

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

SECTION 2. COMPOSITION-----

INGREDIENTS: Gamma Butyrolactone (CAS: 96-48-0); 22-60%
Mixed Triarylsulfonium/ Hexafluoroantimonate Salt;
(CAS: 89452-37-9)/(CAS: 71449-78-0) See Table 1, Section 9
Propylene Carbonate (CAS: 108-32-7); 1-5%
Epoxy Resin (CAS: 28906-96-9); 35-75%

SECTION 3. HAZARD DATA-----

INFLAMMABILITY: Combustible liquid.
SKIN CONTACT: May cause skin irritation.
EYE CONTACT: Severe eye irritant.
INGESTION: Harmful if swallowed in large quantities.
INHALATION: May cause irritation.
MUTAGENICITY: Data not available.
CARCINOGENICITY: Not considered carcinogenic.
TARGET ORGANS: Eyes, Epidermis.

SECTION 4. FIRST AID MEASURES-----

INHALATION: Move to fresh air. Aid in breathing, if necessary, and get immediate medical attention.
INGESTION: If swallowed, dilute with water and induce vomiting. Never give fluids or induce vomiting if the victim is unconscious or having convulsions. Get immediate medical attention.
SKIN CONTACT: Wash affected area with soap and water. Remove and launder contaminated clothing before reuse. Get immediate medical attention.
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-----

EXTINGUISHING MEDIA: Dry chemical, carbon dioxide, foam, water spray, and fog.

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**SPECIAL FIRE FIGHTING
PRECAUTIONS:**

Firefighters should wear NIOSH/MSHA approved self-contained breathing apparatus and full protective clothing.

**UNUSUAL FIRE OR
EXPLOSION HAZARDS:**

Explosion hazard is low when exposed to heat or flames. Can react with oxidizing materials.

SECTION 6. ACCIDENTAL RELEASE PROCEDURES -----

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. STORAGE AND HANDLING PRECAUTIONS-----

STORAGE:

Store in tightly closed container in a cool environment away from direct sunlight. Recommended container materials are glass or HDPE.

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 exposure.
Wear heavy rubber gloves.
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:

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

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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 DATA

APPEARANCE: Pale yellow to clear
ODOR: Faint to mild
BOILING POINT: 204 °C (400 °F)
SPECIFIC GRAVITY: See Table 1 below
VAPOR PRESSURE: 0.3 mmHg @ 20 °C (68 °F)
H₂O SOLUBILITY: See Table 1 below
% VOLATILES: See Table 1 below
EVAPORATION RATE: 1 (BuAc=1)
FLASH POINT: 100 °C (212 °F) DIN 51 758
AUTOIGNITION TEMP: 455 °C (851 °F)
EXPLOSION LIMITS: 2.7 lower
15.6 upper

Table 1

Name	Product#	Specific Gravity (g/ml)	Volatiles (% by wt.)	H ₂ O Solu bilit y (% by wt)	VOC (g/L)	SbF ₆ Salt (% by wt)	Sb (% by wt)
SU8-2	Y131240	1.123	60.5	60.5	680	1.9	<1.0%
SU8-5	Y131252	1.164	45-50	45-50	560	2.5	<1.0%
SU8-10	Y131259	1.187	35-40	35-40	490	2.8	<1.0%
SU8-25	Y131263	1.200	35-40	35-40	440	3.0	<1.0%
SU8-40	Y131265	1.210	33-37	33-37	425	3.1	<1.0%
SU8-50	Y131269	1.219	30-35	30-35	380	3.3	<1.0%
SU8-100	Y131273	1.233	20-30	20-30	330	3.5	<1.0%
SU8-250	Y131274	1.236	20-30	20-30	320	2.2	<1.0%
SU8-500+	Y131275	1.237	20-30	20-30	310	1.5	<1.0%

SECTION 10. REACTIVITY DATA

STABILITY: Stable
INCOMPATIBILITY: Strong Oxidizing Agents, Mineral Acids
HAZARDOUS POLYMERIZATION: Will not occur
HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS: Carbon Monoxide, Carbon Dioxide, Hydrogen Fluoride Gas.

SECTION 11. TOXICITY HAZARDS

As Gamma Butyrolactone:

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Rabbit, Primary Skin Irritation – Nonirritating
Rabbit, Eye Irritation – Severely irritating
Rat, Inhalation Safety Screen, 8 hr. – Not lethal, sat vapor, room temp.

Rat, Oral LD50 – 1540 mg/kg
Mouse, Acute Intraperitoneal LD50 – 1100 mg/kg

As Mixed Triarylsulfonium/Hexafluoroantimonate Salt/Propylene Carbonate

This material was mutagenic in the Ames bacterial assay. It is inactive, however, in the in vivo mouse micronucleus test.

SECTION 12. ECOLOGICAL DATA

No data available at this time.

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: Not Regulated
SHIPPING NAME: Not Regulated
UN NUMBER: Not Regulated
PACKING GROUP: Not Regulated

SECTION 15. REGULATORY INFORMATION

EUROPEAN INFORMATION

EINECS LISTED

EC Nos: Gamma Butyrolactone 202-509-5; Propylene Carbonate 203-572-1;
Mixed Triarylsulfonium/ Hexafluoroantimonate Salt 403-500-0

RISK & SAFETY PHRASES

R22 Harmful if swallowed
R36 Irritating to eyes
R43 May cause sensitization by skin contact
R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
S2 Keep out of the reach of children
S24 Avoid contact with the skin
S37 Wear suitable gloves
S60 This material and its container must be disposed of as hazardous waste
S61 Avoid release to the environment. Refer to special instructions/safety data sheets

INDICATIONS OF DANGER

Xi Irritant

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Xn Harmful
N Environmentally Dangerous

US AND INTERNATIONAL INFORMATION

HAZARDOUS LISTINGS: All ingredients appear on the TSCA Inventory of Chemical Substances.
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:

- 3 Health Hazard Rating
- 1 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.