1 Identification of the substance/mixture and of the company

- **Product identifier**
- **Trade name:** XP MicroSpray™ SU-8 Photoresist Spray
- **Product number:** MSS0014
- **Application of the substance / the preparation** Photoresist
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:** MicroChem Corp.
  90 Oak Street
  P.O. Box 426
  Newton, MA 02464-0002 USA
- **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.

<table>
<thead>
<tr>
<th>Chemical Characterization</th>
<th>Description</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>108-63-6 2-methoxy-1-methylethyl acetate</td>
<td>☢️H226</td>
<td>55-80%</td>
</tr>
<tr>
<td>28906-96-9 epoxy resin</td>
<td>☢️H341; ☥️H319; H317</td>
<td>25-55%</td>
</tr>
<tr>
<td>115-10-6 dimethyl ether</td>
<td>☢️H220; ☥️H280</td>
<td>10-25%</td>
</tr>
<tr>
<td>71449-78-0 hexafluoroantimonate salt</td>
<td>☢️H400; H410; ☥️H317</td>
<td>&lt;2.5%</td>
</tr>
<tr>
<td>108-32-7 propylene carbonate</td>
<td>☥️H319</td>
<td>&lt;2.5%</td>
</tr>
<tr>
<td>89452-37-9 triarylsulfonium salt</td>
<td>☢️H400; H410; ☥️H317</td>
<td>&lt;2.5%</td>
</tr>
</tbody>
</table>

3 Hazards identification

- **Classification of the substance or mixture**
- **GHS02 Flame**
  H222 Extremely flammable aerosol.
- **GHS08 Health hazard**
- **H341 Suspected of causing genetic defects.**
- **GHS09 Environment**
  H411 Toxic to aquatic life with long lasting effects.

(Contd. on page 2)
Trade name: XP MicroSpray™ SU-8 Photoresist Spray

- **GHS07**
  - H319 Causes serious eye irritation.
  - H317 May cause an allergic skin reaction.

- **Label elements**
  - **GHS label elements** The product is classified and labelled according to the Globally Harmonized System (GHS).
  - **Hazard pictograms**
    - GHS02
    - GHS07
    - GHS08
    - GHS09

- **Signal word** Danger

- **Hazard-determining components of labelling:**
  - epoxy resin
  - hexafluoroantimonate salt
  - triarylsulfonium salt

- **Hazard statements**
  - H222 Extremely flammable aerosol.
  - H319 Causes serious eye irritation.
  - H317 May cause an allergic skin reaction.
  - H341 Suspected of causing genetic defects.
  - H411 Toxic to aquatic life with long lasting effects.

- **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.
  - P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
  - P405 Store locked up.
  - P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.
  - P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

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

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

(Contd. on page 3)
4 First aid measures

- After inhalation:
  Supply fresh air and to be sure call for a 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.
- After eye contact:
  Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- After swallowing: Do not induce vomiting; immediately call for medical help.

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:
  Dispose contaminated material as waste according to item 13.
  Ensure adequate ventilation.
- 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 interior ventilation, especially at floor level. (Fumes are heavier than air).
    Open and handle container with care.
  - Information about protection against explosions and fires:
    Keep ignition sources away - Do not smoke.
    Protect against electrostatic charges.
    Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C, i.e. electric lights. Do not pierce or burn, even after use.
    Do not spray on a naked flame or any incandescent material.
- Storage:
  - Requirements to be met by storerooms and containers:
    Store in a cool location.
    Observe official regulations on storing packagings with pressurized containers.
  - Information about storage in one common storage facility: Not required.
  - Further information about storage conditions:
    Keep container tightly sealed.
    Do not gas tight seal receptacle.
    Keep container well-sealed in cool, dry location.
Protect from heat and direct sunlight.
· 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:
  108-65-6 2-methoxy-1-methylethyl acetate
    WEEL 50 ppm
  115-10-6 dimethyl ether
    WEEL 1000 ppm
· 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 and skin.
· Respiratory equipment:
  In case of low exposure, use cartridge respirator. In case of intensive or longer exposure, use SCBA.
· 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 Butyl rubber, BR
· 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: Aerosol
    · Color: Amber colored
    · Odor: Ester-like
    · Odour threshold: Not determined.
  · pH-value: Not determined.
  · Change in condition
    · Melting point/Melting range: Undetermined.
    · Boiling point/Boiling range: -24°C (-11 °F)
  · Flash point: -42°C (-44 °F)
Material Safety Data Sheet
acc. to ISO/DIS 11014

Trade name: XP MicroSpray™ SU-8 Photoresist Spray

(Contd. of page 4)

- Flammability (solid, gaseous): Not applicable.
- Ignition temperature: 235°C (455 °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: 1.5 Vol %
  - Upper: 18.6 Vol %
- Vapor pressure at 20°C (68 °F): 5200 hPa (3900 mm Hg)
- Density: Not determined.
  - Relative density: Not determined.
  - Vapour density: Not determined.
  - Evaporation rate: Not applicable.
- Solubility in / Miscibility with Water: Not miscible or difficult to mix.
- Segregation coefficient (n-octonol/water): Not determined.
- Viscosity:
  - Dynamic: Not determined.
  - Kinematic: Not determined.
- Solvent content:
  - VOC content: 70-80
- 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: Carbon monoxide and carbon dioxide
- Additional information: May form peroxides

11 Toxicological information

- Acute toxicity:
- Primary irritant effect:
  - on the skin: No irritant effect.
  - on the eye: Irritating effect.
- Sensitization: Sensitization possible through skin contact.

12 Ecological information

- Aquatic toxicity: No further relevant information available.
- Persistence and degradability: No further relevant information available.
Material Safety Data Sheet
acc. to ISO/DIS 11014

Trade name: XP MicroSpray™ SU-8 Photoresist Spray

- Behavior in environmental systems:
- Bioaccumulative potential: No further relevant information available.
- Ecotoxic effects:
- Remark: Toxic for fish
- 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.
  - Also poisonous for fish and plankton in water bodies.
  - Toxic for aquatic organisms

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 packaging:
  - Recommendation: Disposal must be made in accordance with Federal, State, and Local regulations.

14 Transport information

- UN-Number
  - DOT, ADR, IMDG, IATA
    - UN1950
- UN proper shipping name
  - DOT, IATA
    - AEROSOLS, flammable
  - ADR
    - 1950 AEROSOLS
  - IMDG
    - AEROSOLS
- Transport hazard class(es)
  - DOT
    - Class
      - 2.1
    - Label
      - 2.1
  - ADR
    - Class
      - 2 5F Gases
    - Label
      - 2.1
Trade name: XP MicroSpray™ SU-8 Photoresist Spray

- IMDG, IATA
  - Class: 2.1
  - Label: 2.1

- Packing group
  - DOT, ADR, IMDG, IATA: Void

- Environmental hazards:
  - Marine pollutant: No

- Special precautions for user
  - Danger code (Kemler): Warning: Gases
  - EMS Number: F-D,S-U

- Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: Not applicable.

- UN "Model Regulation": UN1950, AEROSOLS, 2.1

15 Regulatory information

- Sara
  - Section 355 (extremely hazardous substances): None of the ingredients is listed.

- Section 313 (Specific toxic chemical listings):
  - 71449-78-0 hexafluoroantimonate salt
  - 89452-37-9 triarylsulfonium salt

- 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): None of the ingredients is listed.
### Trade name: XP MicroSpray™ SU-8 Photoresist Spray

- **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**
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  - GHS09

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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
- **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
Trade name: XP MicroSpray™ SU-8 Photoresist Spray

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)
VOC: Volatile Organic Compounds (USA, EU)