1 Identification of the substance/mixture and of the company

- **Product identifier**
  - **Trade name:** Sample - XP JIL Version 013
    - XP PriElex® SU-8

- **Application of the substance / the mixture**
  - To be used by technically qualified personnel for research and development use only.

- **Details of the supplier of the safety data sheet**
  - **Manufacturer/Supplier:**
    - MicroChem Corp.
    - 200 Flanders Road
    - Westborough, MA 01581 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 Hazard(s) identification

- **Classification of the substance or mixture**
  - GHS02 Flame
    - Flam. Liq. 3 H226 Flammable liquid and vapor.
  - GHS08 Health hazard
    - STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.
  - GHS09 Environment
    - Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.
  - GHS07
    - Skin Irrit. 2 H315 Causes skin irritation.
    - Eye Irrit. 2A H319 Causes serious eye irritation.
    - Skin Sens. 1 H317 May cause an allergic skin reaction.

- **Label elements**
  - **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
  - **Hazard pictograms**

(Contd. on page 2)
Trade name: Sample - XP JIL Version 013
XP PriElex® SU-8

- Signal word Warning

- Hazard-determining components of labeling:
  Formaldehyde, polymer with (chloromethyl)oxirane and 4,4'-(1-methylethylidene)bis[phenol]
  Cyclopentanone
  gamma-Butyrolactone

- Hazard statements
  H226 Flammable liquid and vapor.
  H315 Causes skin irritation.
  H319 Causes serious eye irritation.
  H317 May cause an allergic skin reaction.
  H373 May cause damage to organs through prolonged or repeated exposure.
  H411 Toxic to aquatic life with long lasting effects.

- Precautionary statements
  P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
  P260 Do not breathe dust/fume/gas/mist/vapours/spray.
  P280 Wear protective gloves/protective clothing/eye protection/face protection.
  P233 Keep container tightly closed.
  P273 Avoid release to the environment.
  P264 Wash thoroughly after handling.
  P272 Contaminated work clothing should not be allowed out of the workplace.
  P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
  P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
  P362 Take off contaminated clothing and wash before reuse.
  P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
  P337+P313 If eye irritation persists: Get medical advice/attention.
  P370+P378 In case of fire: Use for extinction: Alcohol resistant foam.
  P370+P378 In case of fire: Use for extinction: Fire-extinguishing powder.
  P370+P378 In case of fire: Use for extinction: Carbon dioxide.
  P391 Collect spillage.
  P403+P235 Store in a well-ventilated place. Keep cool.
  P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- Classification system:
  - NFPA ratings (scale 0 - 4)
    Health = 2
    Fire = 3
    Reactivity = 0
  - HMIS-ratings (scale 0 - 4)
    HEALTH Health = 2
    FIRE Fire = 3
    REACTIVITY Reactivity = 0
  - Other hazards
  - Results of PBT and vPvB assessment
    PBT: Not applicable.
    vPvB: Not applicable.
3 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>Danger components</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyclopentanone</td>
<td>Mixture of the substances listed below with nonhazardous additions.</td>
<td>120-92-3 Cyclopentanone</td>
<td>10-25%</td>
</tr>
<tr>
<td>Flam. Liq. 3, H226;</td>
<td>Flam. Liq. 3, H226;</td>
<td>1-Methoxy-2-propanol acetate</td>
<td>25-50%</td>
</tr>
<tr>
<td>Acute Tox. 4, H302;</td>
<td>Acute Tox. 4, H332;</td>
<td>Formaldehyde, polymer with (chloromethyl)oxirane and 4,4'-[(1-methylethylidene)bis[phenol]]</td>
<td>5-15%</td>
</tr>
<tr>
<td>Skin Irrit. 2, H319;</td>
<td>Skin Irrit. 2, H319;</td>
<td>gamma-Butyrolactone</td>
<td>5-15%</td>
</tr>
<tr>
<td>Flam. Liq. 3, H226;</td>
<td>Flam. Liq. 3, H226;</td>
<td>Iodonium, [4-octyloxy)phenyl-(OC-6-11)-hexafluoroantimonate(1-)</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Eye Irrit. 2, H319;</td>
<td>Eye Irrit. 2, H319;</td>
<td>Aquatic Chronic 2, H411;</td>
<td>40-60%</td>
</tr>
<tr>
<td>Acute Tox. 4, H302;</td>
<td>Acute Tox. 4, H332;</td>
<td>Aquatic Chronic 2, H411;</td>
<td>10-25%</td>
</tr>
<tr>
<td>Skin Irrit. 2, H315;</td>
<td>Skin Irrit. 2, H315;</td>
<td>Aquatic Chronic 2, H411;</td>
<td>1-5%</td>
</tr>
<tr>
<td>Eye Irrit. 2A, H319;</td>
<td>Eye Irrit. 2A, H319;</td>
<td>Skin Irrit. 2, H315;</td>
<td>40-60%</td>
</tr>
<tr>
<td>Skin Sens. 1, H317</td>
<td>Skin Sens. 1, H317;</td>
<td>Aquatic Chronic 2, H411;</td>
<td>10-25%</td>
</tr>
</tbody>
</table>

4 First-aid measures

- **Description of first aid measures**
- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:** Supply fresh air and to be sure call for a doctor.
- **After skin contact:**
  - Immediately wash with water and soap and rinse thoroughly.
  - If skin irritation continues, consult a doctor.
- **After eye contact:**
  - Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **Information for doctor:**
  - Most important symptoms and effects, both acute and delayed: No further relevant information available.
  - Indication of any immediate medical attention and special treatment needed: No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
  - Alcohol resistant foam
  - Fire-extinguishing powder
  - Carbon dioxide
- **For safety reasons unsuitable extinguishing agents:**
  - Water with full jet
  - Water
- **Special hazards arising from the substance or mixture**
  - Containers may explode due to pressure increase when container is exposed to extreme heat. Vapors may travel a considerable distance to a source of ignition and flash back along vapor trail.
6 Accidental release measures

- Personal precautions, protective equipment and emergency procedures
  Wear protective equipment. Keep unprotected persons away.
  Ensure adequate ventilation
  Keep away from ignition sources
- Environmental precautions:
  Do not allow to enter sewers/surface or ground water.
  Do not allow product to reach sewage system or any drains.
  Inform respective authorities in case of seepage into water course or sewage system.
- Methods and material for containment and cleaning up:
  Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
  Ensure adequate ventilation.
  Do not flush with water or aqueous cleansing agents
  Dispose contaminated material as waste according to Section 13.
- 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 ventilation/exhaust at the workplace.
    Prevent formation of aerosols.
    Keep receptacles tightly sealed.
  - Information about protection against explosions and fires:
    Keep ignition sources away - Do not smoke.
    Protect against electrostatic charges.
    Use explosion-proof apparatus / fittings and spark-proof tools.
- Conditions for safe storage, including any incompatibilities
- Storage:
  - Requirements to be met by storerooms and containers: Store in a cool location.
  - Information about storage in one common storage facility:
    Do not store together with oxidizing and acidic materials.
    Do not store together with amines.
  - Further information about storage conditions:
    Keep container well-sealed in cool, dry location.
    Store receptacle in a well ventilated area.
- Specific end use(s) For Research and Development Use Only

8 Exposure controls/personal protection

- Additional information about design of technical systems: No further data; see item 7.
· Control parameters

· Components with limit values that require monitoring at the workplace:

<table>
<thead>
<tr>
<th>Substance</th>
<th>Limit Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>108-65-6 1-Methoxy-2-propanol acetate</td>
<td>Long-term value: 50 ppm</td>
</tr>
<tr>
<td>WEEL</td>
<td></td>
</tr>
</tbody>
</table>

· Additional information: The lists that were valid during the creation were used as basis.

· Exposure controls

· 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

  The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

· Material of gloves: Nitrile rubber, NBR

· Penetration time of glove material: Contact glove manufacture for break-through time.

· Eye protection:

  Tightly sealed goggles

9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information

· Appearance:
  Form: Liquid
  Color: Clear, colorless to pale yellow
  Odor: Sweet
  Odour threshold: Not determined.

· pH-value: Not determined.

· Change in condition
  Melting point/Melting range: Undetermined.
  Boiling point/Boiling range: 130 °C (266 °F)

· Flash point: 30 °C (86 °F)

· Flammability (solid, gaseous): Not applicable.

· Ignition temperature: 315 °C (599 °F)

· Decomposition temperature: Not determined.
### 3. Auto igniting
Product is not self-igniting.

### 4. Danger of explosion
Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explosion limits</strong></td>
<td></td>
</tr>
<tr>
<td>Lower</td>
<td>1.3 Vol %</td>
</tr>
<tr>
<td>Upper</td>
<td>10.8 Vol %</td>
</tr>
<tr>
<td><strong>Vapor pressure at 20 °C (68 °F)</strong></td>
<td>11 hPa (8 mm Hg)</td>
</tr>
<tr>
<td><strong>Density</strong></td>
<td>See other information</td>
</tr>
<tr>
<td><strong>Relative density</strong></td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Vapour density</strong></td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Evaporation rate</strong></td>
<td>Not determined.</td>
</tr>
</tbody>
</table>

### 5. Solubility in / Miscibility with Water
Partly miscible.

### 6. Partition coefficient (n-octanol/water)
Not determined.

### 7. Viscosity
- **Dynamic**: Not determined.
- **Kinematic**: Not determined.

### 8. Solvent content
- **Organic solvents**: 37.5 %
- **VOC content**: 37.5 %
- **Solids content**: 19.9 %

### 9. Other information
No further relevant information available.

### 10. Stability and reactivity

- **Reactivity**
- **Chemical stability**: Stable under normal use conditions
- **Thermal decomposition / conditions to be avoided**: No decomposition if used according to specifications.
- **Possibility of hazardous reactions**: Exothermic polymerization.
- **Conditions to avoid**
  - Heat, flames and sparks. Extremes of temperature and direct sunlight.
  - Contact with incompatible materials.
- **Incompatible materials**: Strong Oxidizing Agents, Strong Bases, Strong Acids, Amines
- **Hazardous decomposition products**: Carbon monoxide and carbon dioxide
  - Danger of toxic pyrolysis products.
  - Corrosive gases/vapors

(Contd. on page 7)
11 Toxicological information

- Information on toxicological effects
- Acute toxicity:

<table>
<thead>
<tr>
<th>LD/LC50 values that are relevant for classification:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>28906-96-9 Formaldehyde, polymer with (chloromethyl)oxirane and 4,4'-(1-methylethylidene)bis[phenol]</strong></td>
</tr>
<tr>
<td>Oral</td>
</tr>
<tr>
<td>120-92-3 Cyclopentanone</td>
</tr>
<tr>
<td>Oral</td>
</tr>
<tr>
<td>Dermal</td>
</tr>
<tr>
<td>Inhalative</td>
</tr>
<tr>
<td>96-48-0 gamma-Butyrolactone</td>
</tr>
<tr>
<td>Oral</td>
</tr>
<tr>
<td>Dermal</td>
</tr>
<tr>
<td>Inhalative</td>
</tr>
<tr>
<td>108-65-6 1-Methoxy-2-propanol acetate</td>
</tr>
<tr>
<td>Oral</td>
</tr>
<tr>
<td>Dermal</td>
</tr>
<tr>
<td>Inhalative</td>
</tr>
</tbody>
</table>

- Primary irritant effect:
  - on the skin: Irritant to skin and mucous membranes.
  - on the eye: Irritating effect.
  - Sensitization: Sensitization possible through skin contact.

- Additional toxicological information:
The product shows the following dangers according to internally approved calculation methods for preparations:
  - Irritant

- Carcinogenic categories
  - IARC (International Agency for Research on Cancer)
    - 96-48-0 gamma-Butyrolactone
      - 3
  - NTP (National Toxicology Program)
    - None of the ingredients are listed.

12 Ecological information

- Toxicity

<table>
<thead>
<tr>
<th>Aquatic toxicity:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>28906-96-9 Formaldehyde, polymer with (chloromethyl)oxirane and 4,4'-(1-methylethylidene)bis[phenol]</strong></td>
</tr>
<tr>
<td>LC50/96 h</td>
</tr>
<tr>
<td>NOEC/96 h</td>
</tr>
<tr>
<td>120-92-3 Cyclopentanone</td>
</tr>
<tr>
<td>EC50/48 h</td>
</tr>
<tr>
<td>100 mg/l (daphnia magna)</td>
</tr>
</tbody>
</table>

(Contd. on page 8)
108-65-6 1-Methoxy-2-propanol acetate

<table>
<thead>
<tr>
<th>EC50/72 h</th>
<th>&gt;100 mg/l (scenedesmus subspicatus)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50/48 hr</td>
<td>2950 mg/L (golden orfe)</td>
</tr>
<tr>
<td>LC50/96 h</td>
<td>&gt;100 mg/l (fish)</td>
</tr>
</tbody>
</table>

**Trade name:** Sample - XP JIL Version 013
**XP PriElex® SU-8**

**108-65-6 1-Methoxy-2-propanol acetate**

<table>
<thead>
<tr>
<th>ErC50 96 hour</th>
<th>&gt;1000 mg/l (Pseudokirchneriella subcapitata (algea))</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50</td>
<td>408-500 mg/l (daphnia magna)</td>
</tr>
<tr>
<td></td>
<td>100-180 mg/l (rainbow trout (Oncorhynchus mykiss))</td>
</tr>
</tbody>
</table>

**96-48-0 gamma-Butyrolactone**

<table>
<thead>
<tr>
<th>EC50/17 h</th>
<th>&gt;10000 mg/l (bacterium)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC50/48 h</td>
<td>&gt;500 mg/l (daphnia magna)</td>
</tr>
<tr>
<td>EC50/72 h</td>
<td>360 mg/l (green algae)</td>
</tr>
<tr>
<td>LC50/96 h</td>
<td>&gt;220 - &lt;460 mg/l (golden orfe)</td>
</tr>
</tbody>
</table>

- Persistence and degradability: No further relevant information available.
- Behavior in environmental systems:
- Bioaccumulative potential: No further relevant information available.
- Mobility in soil: No further relevant information available.
- 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.
- Results of PBT and vPvB assessment
  - PBT: Not applicable.
  - vPvB: Not applicable.
- Other adverse effects: No further relevant information available.

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, ADR: Resin solution
  - IMDG: RESIN SOLUTION (Iodonium, [4-octyloxy]phenyl-,(OC-6-11)-hexafluoroantimonate(1-)), MARINE POLLUTANT
  - IATA: RESIN SOLUTION

(Contd. on page 9)
### 38.0 Transport hazard class(es)

- **DOT**
  - **Class:** 3 Flammable liquids.
  - **Label:** 3

- **ADR, IMDG, IATA**
  - **Class:** 3 Flammable liquids
  - **Label:** 3

### 48.0 Packing group

- **DOT, ADR, IMDG, IATA**
  - **Packing group:** III

### 56.0 Environmental hazards:

- **Product contains environmentally hazardous substances:** Formaldehyde, polymer with (chloromethyl)oxirane and 4,4'-(1-methylethylidene)bis[phenol]
- **Marine pollutant:** Yes

### 64.0 Special precautions for user

- **Warning:** Flammable liquids
- **Danger code (Kemler):** 30
- **EMS Number:** F-E,S-E

### 72.0 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

- **Not applicable.**

### 80.0 UN "Model Regulation":

- **UN1866, Resin solution, 3, III**

### 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
  - **Sara**
    - **Section 355 (extremely hazardous substances):** None of the ingredients are 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 are listed.
· Chemicals known to cause reproductive toxicity for males:
  None of the ingredients are listed.

· Chemicals known to cause developmental toxicity:
  None of the ingredients are listed.

· Carcinogenic categories

  · EPA (Environmental Protection Agency)
    None of the ingredients are listed.
  
  · TLV (Threshold Limit Value established by ACGIH)
    None of the ingredients are listed.
  
  · NIOSH-Ca (National Institute for Occupational Safety and Health)
    None of the ingredients are listed.
  
  · OSHA-Ca (Occupational Safety & Health Administration)
    None of the ingredients are listed.
  
  · Massachusetts State Right To Know List
    120-92-3 Cyclopentanone
  
  · New Jersey State Right To Know List
    120-92-3 Cyclopentanone
  
  · Pennsylvania Hazardous Substances List
    120-92-3 Cyclopentanone
  
  · California SCAQMD Rule 443.1 VOC’s: No information available.
  
  · GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).
  
  · Hazard pictograms

  GHS02  GHS07  GHS08  GHS09

  · Signal word Warning
  
  · Hazard-determining components of labeling:
    Formaldehyde, polymer with (chloromethyl)oxirane and 4,4'-(1-methylethylidene)bis[phenol]
    Cyclopentanone
    gamma-Butyrolactone

  · Hazard statements
    H226 Flammable liquid and vapor.
    H315 Causes skin irritation.
    H319 Causes serious eye irritation.
    H317 May cause an allergic skin reaction.
    H373 May cause damage to organs through prolonged or repeated exposure.
    H411 Toxic to aquatic life with long lasting effects.

  · Precautionary statements
    P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
    P260 Do not breathe dust/fume/gas/mist/vapours/spray.
    P280 Wear protective gloves/protective clothing/eye protection/face protection.
    P233 Keep container tightly closed.
    P273 Avoid release to the environment.
    P264 Wash thoroughly after handling.
38.0

P272 Contaminated work clothing should not be allowed out of the workplace.
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
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P370+P378 In case of fire: Use for extinction: Alcohol resistant foam.
P370+P378 In case of fire: Use for extinction: Fire-extinguishing powder.
P370+P378 In case of fire: Use for extinction: Carbon dioxide.
P391 Collect spillage.
P403+P235 Store in a well-ventilated place. Keep cool.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

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. Cole
Revision History: New SDS
Date of preparation / last revision 10/24/2014 / -
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)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent