1 Identification of the substance/mixture and of the company

· Product identifier

  · Trade name: SU-8 2000 Thinner
  · Product number: G010100
  · CAS Number: 120-92-3
  · EC number: 204-435-9
  · Index number: 606-025-00-9

· Application of the substance / the preparation Thinner, Diluent

· 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 Hazards identification

· Classification of the substance or mixture

  GHS02 Flame

  Flam. Liq. 3 H226 Flammable liquid and vapor.

  GHS07

  Acute Tox. 4 H312 Harmful in contact with skin.
  Acute Tox. 4 H332 Harmful if inhaled.
  Skin Irrit. 2 H315 Causes skin irritation.
  Eye Irrit. 2 H319 Causes serious eye irritation.
  STOT SE 3 H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.

· Label elements

  · GHS label elements
    The substance is classified and labelled according to the Globally Harmonized System (GHS).

  · Hazard pictograms

  GHS02 GHS07

(Contd. on page 2)
Trade name: SU-8 2000 Thinner

- Signal word Warning

- Hazard-determining components of labelling:
  Cyclopentanone

- Hazard statements
  H226 Flammable liquid and vapor.
  H312+H332 Harmful in contact with skin or if inhaled.
  H315 Causes skin irritation.
  H319 Causes serious eye irritation.
  H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.

- Precautionary statements
  P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
  P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
  P280 Wear protective gloves/protective clothing/eye protection/face protection.
  P233 Keep container tightly closed.
  P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
  P312 Call a POISON CENTER or doctor/physician if you feel unwell.
  P363 Wash contaminated clothing before reuse.
  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.
  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)
    ![NFPA ratings](image)
    Health = 2
    Fire = 3
    Reactivity = 0
  
  - HMIS-ratings (scale 0 - 4)
    ![HMIS-ratings](image)
    Health = 2
    Fire = 3
    Reactivity = 0

- Other hazards
  - Results of PBT and vPvB assessment
    - PBT: Not applicable.
    - vPvB: Not applicable.

3 Composition/Information on ingredients

- Chemical characterization: Substances
- CAS No. Description
  120-92-3 cyclopentanone
- Identification number(s)
- EC number: 204-435-9
- Index number: 606-025-00-9
4 First aid measures

- Description of first aid measures
- After inhalation:
  Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.
- 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 unless instructed to do so by a physician. Wash out mouth with water and keep person at rest. Seek immediate medical attention.
- Information for doctor:
  Most important symptoms and effects, both acute and delayed: Dizziness
  Indication of any immediate medical attention and special treatment needed: No further relevant information available.

5 Firefighting 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.
- Advice for firefighters
  Protective equipment: Wear SCBA.

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.
- 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
- 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.
    Store in cool, dry place in tightly closed containers.
    Keep away from heat and direct sunlight.
  · Information about protection against explosions and fires:
    Keep ignition sources away - Do not smoke.
    Use explosion-proof apparatus / fittings and spark-proof tools.
    Protect against electrostatic charges.
· 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.
  · Further information about storage conditions:
    Keep container well-sealed in cool, dry location.
    Store under lock and key and with access restricted to technical experts or their assistants only.
· 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.
· Control parameters
· Components with limit values that require monitoring at the workplace: Not required.
  · 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

  · Material of gloves Nitrile rubber, NBR
  · Penetration time of glove material Contact glove manufacture for break-through time.
**Trade name:** SU-8 2000 Thinner

- **Eye protection:**
  
  Tightly sealed goggles

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## 9 Physical and chemical properties

### · Information on basic physical and chemical properties

#### · General Information

- **Appearance:**
  - **Form:** Liquid
  - **Color:** Clear
- **Odor:** Etheral
- **Odour threshold:** Not determined.
- **pH-value:** Not determined.

#### · Change in condition

- **Melting point/Melting range:** -51.3 °C (-60 °F)
- **Boiling point/Boiling range:** 130 °C (266 °F)

#### · Flash point:

- 30 °C (86 °F)

#### · Flammability (solid, gaseous):

- Not applicable.

#### · Ignition temperature:

- 430 °C (806 °F)

#### · Decomposition temperature:

- Not determined.

#### · Auto igniting:

- Not determined.

#### · Danger of explosion:

- Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

#### · Explosion limits:

- **Lower:** Not determined.
- **Upper:** Not determined.

#### · Vapor pressure at 50 °C (122 °F):

- <200 hPa (<150 mm Hg)

#### · Density at 20 °C (68 °F):

- 0.9502/20 °C g/cm³ (7.929/166.9 °C lbs/gal)

#### · Relative density

- Not determined.

#### · Vapour density

- Not determined.

#### · Evaporation rate

- Not determined.

#### · Solubility in / Miscibility with Water

- Water miscible No

#### · Partition coefficient (n-octanol/water)

- Not determined.

#### · Viscosity:

- **Dynamic:** Not determined.
- **Kinematic:** Not determined.
- **Organic solvents:** 100 %

#### · Solids content:

- 0 %

(Contd. on page 6)
Trade name: SU-8 2000 Thinner

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
    Danger of polymerization.
    Possible formation of peroxide.
    Reacts with strong acids.
  - Conditions to avoid: Heat, flames and sparks. Extremes of temperature and direct sunlight.
  - Incompatible materials:
    Strong acids
    Strong oxidizing agents
  - Hazardous decomposition products: Carbon monoxide and carbon dioxide

11 Toxicological information

- Information on toxicological effects
  - Acute toxicity:
    - LD/LC50 values that are relevant for classification:
      120-92-3 Cyclopentanone
      Oral LD50 1180 mg/kg (rat)
      Dermal LD50 >2000 mg/kg (rabbit)
      Inhalative LC50/4 h >19.5 mg/l (rat)
    - Primary irritant effect:
      - on the skin: Irritant to skin and mucous membranes.
      - on the eye: Irritating effect.
      - Sensitization: No sensitizing effects known.
    - Additional toxicological information:
      - Carcinogenic categories
        - IARC (International Agency for Research on Cancer)
          Substance is not listed.
        - NTP (National Toxicology Program)
          Substance is not listed.

12 Ecological information

- Toxicity
  - Aquatic toxicity:
    120-92-3 Cyclopentanone
    EC50/48 h 100 mg/l (daphnia magna)
    EC50/72 h >100 mg/l (scenedesmus subspicatus)
    LC50/96 h >100 mg/l (fish)
  - Persistence and degradability: No further relevant information available.

(Contd. of page 5)
36. 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 (Assessment by list): 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.
    Disposal must be made in accordance with Federal, State, and Local regulations.
- Uncleaned packagings:
  - Recommendation: Disposal must be made in accordance with Federal, State, and Local regulations.

14 Transport information
- UN-Number
  - DOT, ADR, IMDG, IATA: UN2245
- UN proper shipping name
  - DOT, IMDG, IATA: CYCLOPENTANONE
  - ADR: 2245 CYCLOPENTANONE
- Transport hazard class(es)
  - DOT
    - Class: 3 Flammable liquids.
    - Label: 3
  - ADR, IMDG, IATA
    - Class: 3 Flammable liquids
    - Label: 3
- Packing group
  - DOT, ADR, IMDG, IATA: III
Trade name: SU-8 2000 Thinner

- Environmental hazards:
  - Marine pollutant: No
- Special precautions for user: Warning: Flammable liquids
- Danger code (Kemler): 30
- EMS Number: F-E,S-D
- Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: Not applicable.
- UN "Model Regulation": UN2245, CYCLOPENTANONE, 3, III

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
  
  Sara
  
  - Section 355 (extremely hazardous substances):
    Substance is not listed.
  
  - Section 313 (Specific toxic chemical listings):
    Substance is not listed.
  
  - TSCA (Toxic Substances Control Act):
    Substance is listed.
  
  - Proposition 65
    - Chemicals known to cause cancer:
      Substance is not listed.
    - Chemicals known to cause reproductive toxicity for females:
      Substance is not listed.
    - Chemicals known to cause reproductive toxicity for males:
      Substance is not listed.
    - Chemicals known to cause developmental toxicity:
      Substance is not listed.
  
  - Carcinogenic categories
    - EPA (Environmental Protection Agency)
      Substance is not listed.
    - TLV (Threshold Limit Value established by ACGIH)
      Substance is not listed.
    - NIOSH-Ca (National Institute for Occupational Safety and Health)
      Substance is not listed.
    - OSHA-Ca (Occupational Safety & Health Administration)
      Substance is not listed.
    - Massachusetts State Right To Know List
      120-92-3 Cyclopentanone
    - New Jersey State Right To Know List
      120-92-3 Cyclopentanone
Trade name: SU-8 2000 Thinner

· Pennsylvania Hazardous Substances List
  120-92-3 Cyclopentanone

· California SCAQMD Rule 443.1 VOC's: 950 g/L

· GHS label elements
  The substance is classified and labelled according to the Globally Harmonized System (GHS).

· Hazard pictograms
  GHS02 GHS07

· Signal word Warning

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  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. Weber

· Last Revision Date:
  8/15/2013 Revised hazard and precautionary statements. Updated component toxicology data and US State Right to Know listings.

· 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)
**Trade name: SU-8 2000 Thinner**

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>ICAO</td>
<td>International Civil Aviation Organization</td>
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<tr>
<td>ADR</td>
<td>Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)</td>
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<tr>
<td>IMDG</td>
<td>International Maritime Code for Dangerous Goods</td>
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<tr>
<td>DOT</td>
<td>US Department of Transportation</td>
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<tr>
<td>IATA</td>
<td>International Air Transport Association</td>
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<tr>
<td>ACGIH</td>
<td>American Conference of Governmental Industrial Hygienists</td>
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<tr>
<td>EINECS</td>
<td>European Inventory of Existing Commercial Chemical Substances</td>
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<tr>
<td>CAS</td>
<td>Chemical Abstracts Service (division of the American Chemical Society)</td>
</tr>
<tr>
<td>NFPA</td>
<td>National Fire Protection Association (USA)</td>
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<tr>
<td>HMIS</td>
<td>Hazardous Materials Identification System (USA)</td>
</tr>
<tr>
<td>LC50</td>
<td>Lethal concentration, 50 percent</td>
</tr>
<tr>
<td>LD50</td>
<td>Lethal dose, 50 percent</td>
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