### 1 Identification

- **Product identifier**
  - **Trade name:** LENS BOND DECEMENTING AGENT
  - **Article number:** S12700
  - **CAS Number:** 98-00-0
  - **EC number:** 202-626-1
  - **Index number:** 603-018-00-2

- **Relevant identified uses of the substance or mixture and uses advised against**
  - No further relevant information available.

- **Application of the substance / the mixture**
  - Laboratory chemicals

- **Details of the supplier of the safety data sheet**
  - **Manufacturer/Supplier:** Electron Microscopy Sciences
    1560 Industry Road
    USA-Hatfield, PA 19440
    Tel: 215-412-8400  Fax: 215-412-8450
    email: sgkck@aol.com
    www.emsdiasum.com
  - **Information department:** Product safety department
  - **Emergency telephone number:** ChemTrec 1-800-424-9300 Contract CCN7661
    1-703-527-3887

### 2 Hazard(s) identification

- **Classification of the substance or mixture**
  - GHS06 Skull and crossbones
    - Acute Tox. 3 H331 Toxic if inhaled.
  - GHS08 Health hazard
    - Carc. 2 H351 Suspected of causing cancer.
    - STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.
  - GHS07
    - Acute Tox. 4 H302 Harmful if swallowed.
    - Acute Tox. 4 H312 Harmful in contact with skin.
    - Eye Irrit. 2A H319 Causes serious eye irritation.
    - STOT SE 3 H335 May cause respiratory irritation.
    - Flam. Liq. 4 H227 Combustible liquid.

- **Label elements**
  - **GHS label elements** The substance is classified and labeled according to the Globally Harmonized System (GHS).
Safety Data Sheet
acc. to OSHA HCS

Trade name: LENS BOND DECEMENTING AGENT

- Hazard pictograms

- Signal word Danger

- Hazard-determining components of labeling:
  furfuryl alcohol

- Hazard statements
  Combustible liquid.
  Harmful if swallowed or in contact with skin.
  Toxic if inhaled.
  Causes serious eye irritation.
  Suspected of causing cancer.
  May cause respiratory irritation.
  May cause damage to organs through prolonged or repeated exposure.

- Precautionary statements
  Keep away from flames and hot surfaces. – No smoking.
  Do not breathe dust/fume/gas/mist/vapors/spray.
  Wear protective gloves / eye protection / face protection.
  Wear protective gloves / protective clothing.
  Wear eye protection / face protection.
  Wash thoroughly after handling.
  Do not eat, drink or smoke when using this product.
  Use only outdoors or in a well-ventilated area.
  Obtain special instructions before use.
  Do not handle until all safety precautions have been read and understood.
  If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
  Specific treatment (see on this label).
  If swallowed: Call a poison center/doctor if you feel unwell.
  IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
  IF exposed or concerned: Get medical advice/attention.
  If eye irritation persists: Get medical advice/attention.
  Get medical advice/attention if you feel unwell.
  Rinse mouth.
  In case of fire: Use for extinction: CO2, powder or water spray.
  If on skin: Wash with plenty of water.
  Take off contaminated clothing and wash it before reuse.
  Store locked up.
  Store away from flammable substances.
  Store away from acids.
  Store in a well-ventilated place. Keep container tightly closed.
  Store in a well-ventilated place. Keep cool.
  Dispose of contents/container in accordance with local/regional/national/international regulations.

- Classification system:
  NFPA ratings (scale 0 - 4)

  Health = 2
  Fire = 2
  Reactivity = 0

(Contd. of page 1)
Safety Data Sheet  
acc. to OSHA HCS

Printing date 09/22/2015  
Reviewed on 09/22/2015

Trade name: LENS BOND DECEMENTING AGENT

- HMIS-ratings (scale 0 - 4)

<table>
<thead>
<tr>
<th>HEALTH</th>
<th>FIRE</th>
<th>REACTIVITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health = *2</td>
<td>Fire = 2</td>
<td>Reactivity = 0</td>
</tr>
</tbody>
</table>

- 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
  98-00-0 furfuryl alcohol
- Identification number(s)
  - EC number: 202-626-1
  - Index number: 603-018-00-2

4 First-aid measures

- Description of first aid measures
  - General information:
    Immediately remove any clothing soiled by the product.
    Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
    Remove breathing apparatus only after contaminated clothing have been completely removed.
    In case of irregular breathing or respiratory arrest provide artificial respiration.
  - After inhalation:
    Supply fresh air or oxygen; call for 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: Immediately call a doctor.

5 Fire-fighting measures

- Extinguishing media
- Suitable extinguishing agents:
  CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- Special hazards arising from the substance or mixture No further relevant information available.
- Advice for firefighters
- Protective equipment: Mouth respiratory protective device.
6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:**
  Dilute with plenty of water.
  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).
  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 ventilation/exhaustion at the workplace.
    Open and handle receptacle with care.
    Prevent formation of aerosols.
  - **Information about protection against explosions and fires:**
    Protect from heat.
    Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
  - **Requirements to be met by storerooms and receptacles:** No special requirements.
  - **Information about storage in one common storage facility:** Not required.
  - **Further information about storage conditions:**
    Keep receptacle tightly sealed.
    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.
- **Control parameters**
  - **Components with limit values that require monitoring at the workplace:**
    | Component       | PEL  | REL  |
    |-----------------|------|------|
    | furfuryl alcohol| 200 mg/m³, 50 ppm | 60 mg/m³, 15 ppm |
    |                 | Long-term value: | Short-term value: |
    | Skin            | 200 mg/m³, 50 ppm | 60 mg/m³, 15 ppm |
    | Long-term value:| 200 mg/m³, 50 ppm | 60 mg/m³, 15 ppm |
    |                 | 10 ppm          | 10 ppm            |
- **Additional information:** The lists that were valid during the creation were used as basis.
Trade name: LENS BOND DECEMENTING AGENT

· Exposure controls
· Personal protective equipment:
· General protective and hygienic measures:
  Keep away from foodstuffs, beverages and feed.
  Immediately remove all soiled and contaminated clothing.
  Wash hands before breaks and at the end of work.
  Store protective clothing separately.
  Avoid contact with the eyes.
  Avoid contact with the eyes and skin.
· Breathing equipment:
  In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
· Protection of hands:

  Protective gloves

  The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
  Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
  Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
· Material of gloves
  The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
· Penetration time of glove material
  The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
· Eye protection:

  Tightly sealed goggles

9 Physical and chemical properties

· Information on basic physical and chemical properties
· General Information
· Appearance:
  Form: Liquid
  Color: Dark green
  Odor: Mild
  Odour threshold: Not determined.
· pH-value: Not determined.
· Change in condition
  Melting point/Melting range: -31 °C (-24 °F)
  Boiling point/Boiling range: 171/1000 mbar °C (340/1832 mbar °F)
· Flash point: 75 °C (167 °F)
· Flammability (solid, gaseous): Not flammable.
Trade name: LENS BOND DECEMENTING AGENT

- Ignition temperature: 390 °C (734 °F)
- Decomposition temperature: Not determined.
- Auto igniting: Not determined.
- Danger of explosion: Not determined.
- Explosion limits:
  - Lower: 1.8 Vol %
  - Upper: 16.3 Vol %
- Vapor pressure at 20 °C (68 °F): 0.53 hPa
- Density at 20 °C (68 °F): 1.1296 g/cm³ (9.427 lbs/gal)
  - Relative density Not determined.
  - Vapour density Not determined.
  - Evaporation rate Not determined.
- Solubility in / Miscibility with Water: Fully miscible.
- Partition coefficient (n-octanol/water): Not determined.
- Viscosity:
  - Dynamic: Not determined.
  - Kinematic: Not determined.
  - Organic solvents: 0.0 %
- Other information No further relevant information available.

10 Stability and reactivity

- Reactivity
- Chemical stability
  - Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- Possibility of hazardous reactions: No dangerous reactions known.
- Conditions to avoid: No further relevant information available.
- Incompatible materials: No further relevant information available.
- Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

- Information on toxicological effects
- Acute toxicity:
  - LD/LC50 values that are relevant for classification:
    - 98-00-0 furfuryl alcohol
      - Oral LD50 160 mg/kg (mouse)
      - Dermal LD50 400 mg/kg (rabbit)
- Primary irritant effect:
  - on the skin: No irritant effect.
  - on the eye: Irritating effect.
  - Sensitization: No sensitizing effects known.
12 Ecological information

- Toxicity
  - Aquatic toxicity: No further relevant information available.
  - 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 (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 together with household garbage. Do not allow product to reach sewage system.
  - Uncleaned packagings:
    - Recommendation: Disposal must be made according to official regulations.
    - Recommended cleansing agent: Water, if necessary with cleansing agents.

14 Transport information

- UN-Number
  - DOT, ADR, IMDG, IATA: UN2874

- UN proper shipping name
  - DOT: Furfuryl alcohol
  - ADR: 2874 Furfuryl alcohol
  - IMDG, IATA: FURFURYL ALCOHOL

(Contd. on page 8)
### Transport hazard class(es)

**DOT**

<table>
<thead>
<tr>
<th>Class</th>
<th>6.1 Toxic substances</th>
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</thead>
<tbody>
<tr>
<td>Label</td>
<td>6.1</td>
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</tbody>
</table>

**ADR, IMDG, IATA**

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</tr>
</thead>
<tbody>
<tr>
<td>Label</td>
<td>6.1</td>
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</tbody>
</table>

**Packing group**

<table>
<thead>
<tr>
<th>DOT, ADR, IMDG, IATA</th>
<th>III</th>
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**Environmental hazards:**

<table>
<thead>
<tr>
<th>Marine pollutant</th>
<th>No</th>
</tr>
</thead>
</table>

**Special precautions for user**

<table>
<thead>
<tr>
<th>Warning:</th>
<th>Toxic substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Danger code (Kemler):</td>
<td>60</td>
</tr>
<tr>
<td>EMS Number:</td>
<td>F-A,S-A</td>
</tr>
</tbody>
</table>

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

| Not applicable. |

**Transport/Additional information:**

**DOT**

<table>
<thead>
<tr>
<th>Quantity limitations</th>
<th>On passenger aircraft/rail: 60 L</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>On cargo aircraft only: 220 L</td>
</tr>
</tbody>
</table>

**ADR**

<table>
<thead>
<tr>
<th>Excepted quantities (EQ)</th>
<th>Code: E1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum net quantity per inner packaging:</td>
<td>30 ml</td>
</tr>
<tr>
<td>Maximum net quantity per outer packaging:</td>
<td>1000 ml</td>
</tr>
</tbody>
</table>

**IMDG**

<table>
<thead>
<tr>
<th>Limited quantities (LQ)</th>
<th>5L</th>
</tr>
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</table>

**UN "Model Regulation":**

| UN2874, Furfuryl alcohol, 6.1, III |

(Contd. on page 9)
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.

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

![GHS pictograms]

· Signal word Danger

· Hazard-determining components of labeling:
  furfuryl alcohol

· Hazard statements
  Combustible liquid.
  Harmful if swallowed or in contact with skin.
  Toxic if inhaled.
  Causes serious eye irritation.
  Suspected of causing cancer.
  May cause respiratory irritation.
  May cause damage to organs through prolonged or repeated exposure.

· Precautionary statements
  Keep away from flames and hot surfaces. – No smoking.
Trade name: LENS BOND DECEMENTING AGENT

Do not breathe dust/fume/gas/mist/vapors/spray.
Wear protective gloves / eye protection / face protection.
Wear protective gloves / protective clothing.
Wear eye protection / face protection.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Specific treatment (see on this label).
If swallowed: Call a poison center/doctor if you feel unwell.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
IF exposed or concerned: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention if you feel unwell.
Rinse mouth.
In case of fire: Use for extinction: CO2, powder or water spray.
If on skin: Wash with plenty of water.
Take off contaminated clothing and wash it before reuse.
Store locked up.
Store away from flammable substances.
Store away from acids.
Store in a well-ventilated place. Keep container tightly closed.
Store in a well-ventilated place. Keep cool.
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.

· Date of preparation / last revision 09/22/2015 /

· 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
  CAS: Chemical Abstracts Service (division of the American Chemical Society)
  NFPA: National Fire Protection Association (USA)
  HMIS: Hazardous Materials Identification System (USA)
  LC50: Lethal concentration, 50 percent
  LD50: Lethal dose, 50 percent
  Flam. Liq. 4: Flammable liquids, Hazard Category 4
  Acute Tox. 4: Acute toxicity, Hazard Category 4
  Acute Tox. 3: Acute toxicity, Hazard Category 3
  Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A
  Carc. 2: Carcinogenicity, Hazard Category 2
  STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3
  STOT RE 2: Specific target organ toxicity - Repeated exposure, Hazard Category 2