1 Identification

· Product identifier
  · Trade name: LENS BOND OPTICAL CEMENT TYPE DB-99
  · Article number: S12303
· 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
  · GHS08 Health hazard
    Carc. 2 H351 Suspected of causing cancer.
    Repr. 2 H361 Suspected of damaging fertility or the unborn child.
    STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.
  · GHS05 Corrosion
    Eye Dam. 1 H318 Causes serious eye damage.

· Label elements
  · GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).
  · Hazard pictograms
    · GHS05 GHS08

· Signal word Danger
· Hazard-determining components of labeling:
  1-vinyl-2-pyrrolidone
diphenyl(2,4,6- trimethylbenzoyl)phosphine oxide
· Hazard statements
  Causes serious eye damage.
  Suspected of causing cancer.
  Suspected of damaging fertility or the unborn child.

(Contd. on page 2)
May cause damage to organs through prolonged or repeated exposure.

- **Precautionary statements**
  - Do not breathe dust/fume/gas/mist/vapors/spray.
  - Wear eye protection / face protection.
  - 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.
  - Immediately call a poison center/doctor.
  - IF exposed or concerned: Get medical advice/attention.
  - Get medical advice/attention if you feel unwell.
  - Store locked up.
  - Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Classification system:**
  - **NFPA ratings (scale 0 - 4)**
    - Health = 2
    - Fire = 1
    - Reactivity = 0
  - **HMIS-ratings (scale 0 - 4)**
    - HEALTH
    - Health = *2
    - FIRE
    - Fire = 1
    - 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.

#### Dangerous components:

<table>
<thead>
<tr>
<th>Substance</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>75980-60-8 diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide</td>
<td>2.5-10%</td>
</tr>
<tr>
<td>88-12-0 1-vinyl-2-pyrrolidone</td>
<td>2.5-10%</td>
</tr>
</tbody>
</table>

### 4 First-aid measures

- **Description of first aid measures**
  - **After inhalation:** Supply fresh air; consult doctor in case of complaints.
  - **After skin contact:** Generally the product does not irritate the skin.
  - **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
  - **After swallowing:** If symptoms persist consult 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:
  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: No special measures required.

6 Accidental release measures

- Personal precautions, protective equipment and emergency procedures: Not required.
- 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).
  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: 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: None.
    - 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:
    88-12-0 1-vinyl-2-pyrrolidone
    TLV Long-term value: 0.23 mg/m³, 0.05 ppm
  - 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 foodstuffs, beverages and feed.
41.0
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.

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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

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: Fluid
      - Color: Clear
      - Odor: Irritant
      - Odour threshold: Not determined.
  - pH-value: Not determined.

- Change in condition
  - Melting point/Melting range: Undetermined.
  - Boiling point/Boiling range: > 149 °C (> 300 °F)

- Flash point: > 93 °C (> 199 °F)

- Flammability (solid, gaseous): Not flammable.

- Ignition temperature: 240 °C (464 °F)

- Decomposition temperature: Not determined.

- Auto igniting: Product is not selfigniting.
Safety Data Sheet
acc. to OSHA HCS

Trade name: LENS BOND OPTICAL CEMENT TYPE DB-99

· Danger of explosion: Product does not present an explosion hazard.

· Explosion limits:
  Lower: Not determined.
  Upper: Not determined.

· Vapor pressure: Not determined.

· Density: Not determined.
· Relative density Not determined.
· Vapour density Not determined.
· Evaporation rate Not determined.

· Solubility in / Miscibility with
  Water: Not miscible or difficult to mix.

· Partition coefficient (n-octanol/water): Not determined.

· Viscosity:
  Dynamic: Not determined.
  Kinematic: Not determined.

· Solvent content:
  Organic solvents: 5.0 %
  VOC content: 5.0 %
  50.0 g/l / 0.42 lb/gl

· 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: |
| 88-12-0 1-vinyl-2-pyrrolidone |
| Oral | LD50 | 1470 mg/kg (rat) |
| Dermal | LD50 | 560 mg/kg (rabbit) |
| Inhalative | LC50/4 h | 3.2 mg/l (rat) |

· Primary irritant effect:
  · on the skin: No irritant effect.
  · on the eye: Strong irritant with the danger of severe eye injury.
· Sensitization: No sensitizing effects known.
· Additional toxicological information:
  The product shows the following dangers according to internally approved calculation methods for preparations:
  (Contd. on page 6)
Trade name: LENS BOND OPTICAL CEMENT TYPE DB-99

Irritant

- Carcinogenic categories
  - IARC (International Agency for Research on Cancer)
    88-12-0 1-vinyl-2-pyrrolidone 3
  - NTP (National Toxicology Program)
    None of the ingredients is listed.
  - OSHA-Ca (Occupational Safety Health Administration)
    None of the ingredients is listed.

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 3 (Self-assessment): extremely hazardous for water
    Do not allow product to reach ground water, water course or sewage system, even in small quantities.
    Danger to drinking water if even extremely small quantities leak into the ground.
  - 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.

14 Transport information

- UN-Number
  - DOT, ADR, ADN, IMDG, IATA: Void
- UN proper shipping name
  - DOT, ADR, ADN, IMDG, IATA: Void
- Transport hazard class(es)
  - DOT, ADR, ADN, IMDG, IATA: Void
  - Class: Void
Trade name: LENS BOND OPTICAL CEMENT TYPE DB-99

- Packing group
  - DOT, ADR, IMDG, IATA: Void
- Environmental hazards:
  - Marine pollutant: No
- Special precautions for user: Not applicable.
- Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: Not applicable.
- UN "Model Regulation": -

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
  - Section 355 (extremely hazardous substances):
    None of the ingredients is listed.
  - Section 313 (Specific toxic chemical listings):
    None of the ingredients is listed.
  - TSCA (Toxic Substances Control Act):
    73324-00-2 Urethane Acrylate Oligomer
    75980-60-8 diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide
    88-12-0 1-vinyl-2-pyrrolidone
  - Proposition 65
    None of the ingredients is listed.
  - Chemicals known to cause cancer:
    None of the ingredients is 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.
  - TLV (Threshold Limit Value established by ACGIH)
    88-12-0 1-vinyl-2-pyrrolidone A3
  - NIOSH-Ca (National Institute for Occupational Safety and Health)
    None of the ingredients is listed.

- GHS label elements
  The product is classified and labeled according to the Globally Harmonized System (GHS).
Trade name: LENS BOND OPTICAL CEMENT TYPE DB-99

· **Hazard pictograms**

   ![Hazard pictograms](image)

   GHS05  GHS08

· **Signal word** Danger

· **Hazard-determining components of labeling:**
  1-vinyl-2-pyrrolidone
diphenyl(2,4,6- trimethylbenzoyl)phosphine oxide

· **Hazard statements**
  Causes serious eye damage.
  Suspected of causing cancer.
  Suspected of damaging fertility or the unborn child.
  May cause damage to organs through prolonged or repeated exposure.

· **Precautionary statements**
  Do not breathe dust/fume/gas/mist/vapors/spray.
  Wear eye protection / face protection.
  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.
  Immediately call a poison center/doctor.
  If exposed or concerned: Get medical advice/attention.
  Get medical advice/attention if you feel unwell.
  Store locked up.
  Dispose of contents/container in accordance with local/regional/national/international regulations.

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

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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.

· **Date of preparation / last revision** 09/23/2015 / -

· **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
  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
  Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1
  Carc. 2: Carcinogenicity, Hazard Category 2
  Repr. 2: Reproductive toxicity, Hazard Category 2
  STOT RE 2: Specific target organ toxicity - Repeated exposure, Hazard Category 2

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