1 Identification

- **Product name:** Cerium Oxide Suspension, 0.5 micron
- **Part number:** 90-187915, 90-187920
- **Application of the substance / the mixture:** Polishing solution
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
  Allied High Tech Products Inc.
  2376 East Pacifica Place
  USA-RANCHO DOMINGUEZ, CA 90220
  USA
  info@alliedhiightech.com
- **Information department:** Product safety department
- **Emergency telephone number:**
  During normal opening times: +1 (310) 635-2466
  Chemtrec: +1 (202) 483-7616

2 Hazard(s) identification

- **Classification of the substance or mixture** The product is not classified, according to the Globally Harmonized System (GHS).

- **Label elements**
  - **GHS label elements** Void
  - **Hazard pictograms** Void
  - **Signal word** Void
  - **Hazard statements** Void
  - **Classification system**
  - **NFPA ratings (scale 0 - 4)**
    - Health = 0
    - Fire = 0
    - Reactivity = 0
  - **HMIS-ratings (scale 0 - 4)**
    - Health = 0
    - Fire = 0
    - 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.

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Product name: Cerium Oxide Suspension, 0.5 micron

- Hazardous Components: Void
- Non-hazardous Components:
  - 7732-18-5 water, distilled, conductivity or of similar purity: 50-100%
  - 1306-38-3 cerium oxide: 10-25%

4 First-aid measures

- Description of first aid measures
  - General information: No special measures required.
  - 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.
  - After swallowing: If symptoms persist consult doctor.
  - Information for doctor:
  - Most important symptoms and effects, both acute and delayed: Coughing
  - Indication of any immediate medical attention and special treatment needed: No further relevant information available.

5 Fire-fighting measures

- Extinguishing media
- Suitable extinguishing agents: Use fire fighting measures that suit the environment.
- 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.
  - Dilute with plenty of water.
- Methods and material for containment and cleaning up:
  - Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- 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.
- Protective Action Criteria for Chemicals
  - PAC-1:
    - 1306-38-3 cerium oxide: 3 mg/m³
  - PAC-2:
    - 1306-38-3 cerium oxide: 33 mg/m³
  - PAC-3:
    - 1306-38-3 cerium oxide: 200 mg/m³

7 Handling and storage

- Handling:
  - Precautions for safe handling:
    - Wash hands and other exposed areas after use.
    - Observe good industrial hygiene practices.
    - No special measures required.
  - Information about protection against explosions and fires: No special measures required.
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- Conditions for safe storage, including any incompatibilities
  - Storage:
    - Requirements to be met by storerooms and receptacles:
      Store in a cool location.
      No special requirements.
    - Information about storage in one common storage facility: Not required.
    - Further information about storage conditions: Protect from frost.
    - 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:
  The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- Additional information: The lists that were valid during the creation were used as basis.
- Exposure controls
- Personal protective equipment:
- General protective and hygienic measures: The usual precautionary measures for handling chemicals should be followed.
- Breathing equipment:
  - Not required.
  - Use suitable respiratory protective device in case of insufficient ventilation.
- Protection of hands:
  - Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
- Material of gloves Recommended thickness of the material: ≥ 0.4 mm mm
- Penetration time of glove material
  - Break through time: >10 min.
  - The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- Eye protection: Goggles recommended during refilling.

9 Physical and chemical properties

- Information on basic physical and chemical properties
  - General Information
    - Appearance:
      - Form: Suspension
      - Color: Yellow-brown
      - Odor: Odorless
      - Odor threshold: Not determined.
  - pH-value at 20 °C (68 °F):
    - 9
  - Change in condition
    - Melting point/Melting range: 0 °C (32 °F)
    - Boiling point/Boiling range: 100 °C (212 °F)
  - Flash point: Not applicable.
  - Flammability (solid, gaseous): Not applicable.
  - Decomposition temperature: Not determined.
  - Auto igniting: Product is not selfigniting.
  - Danger of explosion: Product does not present an explosion hazard.
  - Explosion limits:
    - Lower: Not determined.
    - Upper: Not determined.
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(Contd. of page 3)

- Vapor pressure at 20 °C (68 °F): 23 hPa (17.3 mm Hg)
- Density: Not determined.
- Relative density: Not determined.
- Vapor density: Not determined.
- Evaporation rate: Not determined.
- Solubility in / Miscibility with Water: Dispersible.
- Partition coefficient (n-octanol/water): Not determined.
- Viscosity:
  - Dynamic: Not determined.
  - Kinematic: Not determined.
- Solvent content:
  - Water: 85.0 %
  - VOC content: 0.00 %
  - 0.0 g/l / 0.00 lb/gal
- Solids content: 15.0 %
- Other information: No further relevant information available.

10 Stability and reactivity

- Reactivity: No further relevant information available.
- 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: Freezing conditions
- Incompatible materials: No further relevant information available.
- Hazardous decomposition products: Carbon monoxide and carbon dioxide
- Additional information: Hazardous decomposition products may form during combustion.

11 Toxicological information

- Information on toxicological effects
- Acute toxicity:
- LD/LC50 values that are relevant for classification:

<table>
<thead>
<tr>
<th>Category</th>
<th>LD50</th>
<th>LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dermal</td>
<td>13,400 mg/kg (rat)</td>
<td>34 mg/l (rat)</td>
</tr>
<tr>
<td>Inhalative</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Primary chemical irritant effect:
  - on the skin: No irritant effect.
  - on the eye: No irritating effect.
  - Sensitization: No sensitizing effects known.
- Additional toxicological information:
  - Abrasive eye irritant
  - Abrasive skin irritant
  - When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

- Carcinogenic categories
- IARC (International Agency for Research on Cancer)
  - None of the ingredients is listed.
- NTP (National Toxicology Program)
  - None of the ingredients is listed.

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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 (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: Contact waste processors for recycling information.
- Uncleaned packagings:
- Recommendation: Disposal must be made according to official regulations.

14 Transport information

- UN-Number
- DOT, ADN, IMDG, IATA: not regulated
- UN proper shipping name
- DOT, ADN, IMDG, IATA: not regulated
- Transport hazard class(es)
- DOT, ADN, IMDG, IATA: not regulated
- Class: not regulated
- Packing group
- DOT, IMDG, IATA: not regulated
- 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":
- not regulated

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 is listed.
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· Section 313 (Specific toxic chemical listings):
  None of the ingredients is listed.

· TSCA (Toxic Substances Control Act):
  All components have the value ACTIVE.

· Hazardous Air Pollutants
  None of the ingredients is listed.

· Proposition 65

  · 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)
    1306-38-3 cerium dioxide [II]

  · 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.

· 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 SDS: Environment protection department.
· Contact: Kim Derrit
· Last revision: 04/30/2020 / 2.0
· Abbreviations and acronyms:
  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
  PBT: Persistent, Bioaccumulative and Toxic
  vPoB: very Persistent and very Bioaccumulative
  OSHA: Occupational Safety & Health
  TEL: Threshold Limit Value
  PEL: Permissible Exposure Limit
  REL: Recommended Exposure Limit