1 Identification

- **Product name**: Colloidal Alumina Suspension, 0.03 micron (Undiluted)
- **Part number**: 180-80000, -80010, -80015
- **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@alliedhightech.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**: Void
  - **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.

(Contd. on page 2)
3 Composition/information on ingredients

- Chemical characterization: Mixtures
- Description: Mixture of the substances listed below with nonhazardous additions.

<table>
<thead>
<tr>
<th>Hazardous Components:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1344-28-1 aluminium oxide</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Non-hazardous Components:</th>
</tr>
</thead>
<tbody>
<tr>
<td>7732-18-5 water, distilled, conductivity or of similar purity</td>
</tr>
</tbody>
</table>

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: 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: 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: No special measures required.
- 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

<table>
<thead>
<tr>
<th>PAC-1:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1344-28-1 aluminium oxide</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PAC-2:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1344-28-1 aluminium oxide</td>
</tr>
</tbody>
</table>
Product name: Colloidal Alumina Suspension, 0.03 micron (Undiluted)

7 Handling and storage

· Handling:
  · Precautions for safe handling: No special measures required.
  · Information about protection against explosions and fires: No special measures required.

· Conditions for safe storage, including any incompatibilities
  · Storage:
    · Requirements to be met by storerooms and receptacles:
      Use polyolefine receptacles.
      Unsuitable material for receptacle: steel.
    · Information about storage in one common storage facility: Store away from foodstuffs.
    · 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:

| 1344-28-1 aluminium oxide | 990 mg/m³ |

| PAC-3: | 1344-28-1 aluminium oxide |

<table>
<thead>
<tr>
<th>PEL</th>
<th>Long-term value: 15*; 5** mg/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>*Total dust; ** Respirable fraction</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>REL</th>
<th>Long-term value: 10* 5** mg/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>as Al*Total dust**Respirable/pyro powd./welding f.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TLV</th>
<th>Long-term value: 1* mg/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>as Al; *as respirable fraction</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:
      The usual precautionary measures for handling chemicals should be followed.
    · Breathing equipment: Not required.
    · Protection of hands: Not required.
  · Material of gloves
    Recommended thickness of the material: ≥ 0.4 mm
    Nitrile rubber, NBR
  · 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.
Product name: Colloidal Alumina Suspension, 0.03 micron (Undiluted)

### 9 Physical and chemical properties

- **Information on basic physical and chemical properties**
  - **General Information**
  - **Appearance:**
    - Form: Suspension
    - Color: White
  - **Odor:** Odorless
  - **Odor threshold:** Not determined.
  - **pH-value at 20 °C (68 °F):** 4
  - **Change in condition**
    - Melting point/Melting range: Undetermined.
    - 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.
  - **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: Fully miscible.
  - **Partition coefficient (n-octanol/water):** Not determined.
  - **Viscosity:**
    - Dynamic: Not determined.
    - Kinematic: Not determined.
  - **Solvent content:**
    - Organic solvents: 0.0 %
    - Water: 80.0 %
    - VOC content: 0.0 g/l / 0.00 lb/gl
  - **Solids content:** 20.0 %
  - **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.

(Contd. on page 5)
11 Toxicological information

- Information on toxicological effects
  - Acute toxicity:
    - LD/LC50 values that are relevant for classification:
      - 1344-28-1 aluminium oxide
        - Oral LD50 5,010 mg/kg (rat)
      - 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 skin irritant
        - Abrasive eye 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.
    - 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: Generally not hazardous for water
    - 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.
Product name: Colloidal Alumina Suspension, 0.03 micron (Undiluted)

- 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, 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.
    - Section 313 (Specific toxic chemical listings):
      1344-28-1 aluminium oxide
    - TSCA (Toxic Substances Control Act):
      All ingredients are 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.
Product name: Colloidal Alumina Suspension, 0.03 micron (Undiluted)

- **Carcinogenic categories**
  
  - **EPA (Environmental Protection Agency)**
    
    None of the ingredients is listed.
  
  - **TLV (Threshold Limit Value established by ACGIH)**
    
    1344-28-1 aluminium oxide A4
  
  - **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 Dermit
  
  - **Date of preparation / last revision** 06/08/2018 /
  
  - **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
    
    PBT: Persistent, Bioaccumulative and Toxic
    
    vPvB: very Persistent and very Bioaccumulative
    
    NIOSH: National Institute for Occupational Safety
    
    OSHA: Occupational Safety & Health
    
    TLV: Threshold Limit Value
    
    PEL: Permissible Exposure Limit
    
    REL: Recommended Exposure Limit