1 Identification

- **Product name:** FinalPrep Alumina Polishing Solution, De-Agglomerated, 0.05 micron
- **Part number:** 90-187705, 90-187725, 90-187740, 90-187775
- **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@alliedhihtech.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**
  ! [GHS07]
  Skin Irrit. 2  H315  Causes skin irritation.
  Eye Irrit. 2A  H319  Causes serious eye irritation.

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

  ! [GHS07]

- **Signal word** Warning
- **Hazard statements**
  Causes skin irritation.
  Causes serious eye irritation.
- **Precautionary statements**
  Wash thoroughly after handling.
  Wear protective gloves / eye protection / face protection.
  If on skin: Wash with plenty of water.
  Specific treatment (see on this label).
  If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If skin irritation occurs: Get medical advice/attention.
Product name: FinalPrep Alumina Polishing Solution, De-Agglomerated, 0.05 micron

Take off contaminated clothing and wash it before reuse.
If eye irritation persists: Get medical advice/attention.

Classification system:
· NFPA ratings (scale 0 - 4)
  · Health = 2
  · Fire = 0
  · Reactivity = 0

· HMIS-ratings (scale 0 - 4)
  · Health = 2
  · 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.

<table>
<thead>
<tr>
<th>Hazardous Components</th>
<th>Non-hazardous Components</th>
</tr>
</thead>
<tbody>
<tr>
<td>1344-28-1 aluminium oxide</td>
<td>Proprietary Ingredient</td>
</tr>
<tr>
<td>1310-58-3 potassium hydroxide</td>
<td></td>
</tr>
<tr>
<td>Skin Corr. 1A, H314; Acute Tox. 4, H302</td>
<td>≥0.5-1%</td>
</tr>
</tbody>
</table>

4 First-aid measures

· Description of first aid measures
· General information: Immediately remove any clothing soiled by the product.
· After inhalation: 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: If symptoms persist consult doctor.
· Information for doctor:
  · Most important symptoms and effects, both acute and delayed
    Breathing difficulty
    Gastric or intestinal disorders
    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: No special measures required.
· Methods and material for containment and cleaning up: Dispose of the collected material according to regulations.
Product name: FinalPrep Alumina Polishing Solution, De-Agglomerated, 0.05 micron

- 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>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1344-28-1</td>
<td>aluminium oxide</td>
<td>15 mg/m³</td>
</tr>
<tr>
<td>1310-58-3</td>
<td>potassium hydroxide</td>
<td>0.18 mg/m³</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PAC-2:</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1344-28-1</td>
<td>aluminium oxide</td>
<td>170 mg/m³</td>
</tr>
<tr>
<td>1310-58-3</td>
<td>potassium hydroxide</td>
<td>2 mg/m³</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PAC-3:</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1344-28-1</td>
<td>aluminium oxide</td>
<td>990 mg/m³</td>
</tr>
<tr>
<td>1310-58-3</td>
<td>potassium hydroxide</td>
<td>54 mg/m³</td>
</tr>
</tbody>
</table>

7 Handling and storage

- Handling:
- Precautions for safe handling: No special precautions are necessary if used correctly.
- 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:
  Store in a cool location.
  No special requirements.

- Information about storage in one common storage facility: Not required.
- Further information about storage conditions: Keep receptacle tightly sealed.
- 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

<table>
<thead>
<tr>
<th>Components with limit values that require monitoring at the workplace:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1344-28-1 aluminium oxide</td>
</tr>
<tr>
<td>PEL Long-term value: 15*; 5** mg/m³</td>
</tr>
<tr>
<td>*Total dust; **Respirable fraction</td>
</tr>
<tr>
<td>REL Long-term value: 10* 5** mg/m³</td>
</tr>
<tr>
<td>as Al; Total dust = Respirable/pyro powd./welding f.</td>
</tr>
<tr>
<td>TLV Long-term value: 1* mg/m³</td>
</tr>
<tr>
<td>as Al; *as respirable fraction</td>
</tr>
</tbody>
</table>

| 1310-58-3 potassium hydroxide                                 |
| REL Ceiling limit value: 2 mg/m³                            |
| TLV Ceiling limit value: 2 mg/m³                            |

- 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.
    Immediately remove all soiled and contaminated clothing.
    Wash hands before breaks and at the end of work.
    Avoid contact with the eyes and skin.

(Contd. on page 4)
Product name: FinalPrep Alumina Polishing Solution, De-Agglomerated, 0.05 micron

· Breathing equipment:
  Not required.
  Use suitable respiratory protective device in case of insufficient ventilation.
· Protection of hands:
  Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
· Material of gloves
  Nitrile rubber, NBR
  Neoprene gloves
  PVC gloves
· 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: Solution
  Color: Whitish
· Odor: Odorless
· Odor threshold: Not determined.
· pH-value at 20 °C (68 °F): >7
· Change in condition
  Melting point/Melting range: 2,000 °C (35.600 °F) (Al2O3 powder)
  Boiling point/Boiling range: 2,980 °C (37.480 °F) (Al2O3 powder)
· Flash point: Not applicable.
· Flammability (solid, gaseous): Not determined.
· 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: Not applicable.
· Density: Not determined.
· Relative density: Not determined.
· Vapor density: Not applicable.
· Evaporation rate: Not applicable.
· Solubility in / Miscibility with
  Water: Dispersible.
Product name: FinalPrep Alumina Polishing Solution, De-Agglomerated, 0.05 micron

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

<table>
<thead>
<tr>
<th>· Viscosity:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>· Dynamic:</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>· Kinematic:</td>
<td>Not applicable.</td>
</tr>
</tbody>
</table>

· Solvent content:
  · VOC content: 0.00 %

· Solids content: 100.0 %

· 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: Strong exothermic reaction with acids.
  · Conditions to avoid: Keep away from acids.
  · Incompatible materials: No further relevant information available.
  · Hazardous decomposition products: Toxic metal compounds

11 Toxicological information

· Information on toxicological effects

· Acute toxicity:
  · LD/LC50 values that are relevant for classification:

<table>
<thead>
<tr>
<th>ATE (Acute Toxicity Estimate)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalative</td>
<td>LC50/4h &lt;17.1 mg/l (rat)</td>
</tr>
</tbody>
</table>

1344-28-1 aluminium oxide

<table>
<thead>
<tr>
<th>Oral</th>
<th>LD50</th>
<th>5,010 mg/kg (rat)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalative</td>
<td>LC50/4h</td>
<td>&gt;6 mg/l (rat)</td>
</tr>
</tbody>
</table>

1310-58-3 potassium hydroxide

<table>
<thead>
<tr>
<th>Oral</th>
<th>LD50</th>
<th>273 mg/kg (rat)</th>
</tr>
</thead>
</table>

· Primary chemical 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)
    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.
Product name: FinalPrep Alumina Polishing Solution, De-Agglomerated, 0.05 micron

- 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 packaging:
  - Recommendation: Disposal must be made according to official regulations.

### 14 Transport information

<table>
<thead>
<tr>
<th>UN-Number</th>
<th>DOT, IMDG, IATA</th>
<th>ADN</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN-Number</td>
<td>not regulated</td>
<td></td>
</tr>
<tr>
<td>DOT</td>
<td>not regulated</td>
<td></td>
</tr>
<tr>
<td>IMDG</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IATA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ADN</td>
<td>not regulated</td>
<td></td>
</tr>
<tr>
<td>ADN</td>
<td></td>
<td></td>
</tr>
<tr>
<td>UN proper shipping name</td>
<td>DOT, ADN, IMDG, IATA</td>
<td>not regulated</td>
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<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DOT</td>
<td>not regulated</td>
<td></td>
</tr>
<tr>
<td>Class</td>
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</tr>
<tr>
<td>Label</td>
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<tr>
<td>ADN/R Class:</td>
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<td></td>
</tr>
<tr>
<td>Packing group</td>
<td>DOT, IMDG, IATA</td>
<td>not regulated</td>
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<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental hazards:</td>
<td>Marine pollutant:</td>
<td>No</td>
</tr>
<tr>
<td>Special precautions for user</td>
<td>Not applicable.</td>
<td></td>
</tr>
<tr>
<td>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</td>
<td>Not applicable.</td>
<td></td>
</tr>
<tr>
<td>UN &quot;Model Regulation&quot;:</td>
<td>not regulated</td>
<td></td>
</tr>
</tbody>
</table>

### 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 components have the value ACTIVE.
- Hazardous Air Pollutants
  - None of the ingredients is listed.
Product name: FinalPrep Alumina Polishing Solution, De-Agglomerated, 0.05 micron

- 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)
    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
- Last revision: 04/28/2020 / 1.0
- 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
  - 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
  - Acute Tox. 4: Acute toxicity – Category 4
  - Skin Corr. 1A: Skin corrosion/irritation – Category 1A
  - Skin Irrit. 2: Skin corrosion/irritation – Category 2
  - Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A