1 Identification

- **Product name:** Alumina Polishing Suspension, De-agglomerated, 0.05 micron and High Purity, De-agglomerated 0.05 - 5 micron
- **Part number:**
  - 90-187505, -187540, -187575
  - 90-187506, -187511, -187516, -187521, -187526
- **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:**
  - **NFPA ratings (scale 0 - 4)**
    - Health = 0
    - Fire = 0
    - Reactivity = 0
  - **HMIS-ratings (scale 0 - 4)**
    - Health = 0
    - Fire = 0
    - Reactivity = 0

(Contd. on page 2)
Product name: Alumina Polishing Suspension, De-agglomerated, 0.05 micron and High Purity, De-agglomerated 0.05 - 5 micron

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></th>
</tr>
</thead>
<tbody>
<tr>
<td>57-55-6 propylene glycol</td>
<td><img src="image" alt="Acute Tox. 4, H302" /> 10-25%</td>
</tr>
<tr>
<td>1344-28-1 aluminium oxide</td>
<td>10-25%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Non-hazardous Components:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proprietary Ingredient</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
    Coughing
    Breathing difficulty
  - 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: 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.

(Contd. on page 3)
### 4 Protective Action Criteria for Chemicals

<table>
<thead>
<tr>
<th>PAC-1</th>
<th>57-55-6 propylene glycol</th>
<th>30 mg/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1344-28-1 aluminium oxide</td>
<td>15 mg/m³</td>
</tr>
<tr>
<td>PAC-2</td>
<td>57-55-6 propylene glycol</td>
<td>1,300 mg/m³</td>
</tr>
<tr>
<td></td>
<td>1344-28-1 aluminium oxide</td>
<td>170 mg/m³</td>
</tr>
<tr>
<td>PAC-3</td>
<td>57-55-6 propylene glycol</td>
<td>7,900 mg/m³</td>
</tr>
<tr>
<td></td>
<td>1344-28-1 aluminium oxide</td>
<td>990 mg/m³</td>
</tr>
</tbody>
</table>

### 6 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:** Store in a cool location.
  - **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:**

<table>
<thead>
<tr>
<th>Component</th>
<th>Limit Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>57-55-6 propylene glycol</td>
<td>10 mg/m³ (WEEL)</td>
</tr>
<tr>
<td>1344-28-1 aluminium oxide</td>
<td>15*; 5** mg/m³ PEL</td>
</tr>
<tr>
<td></td>
<td>as Al*Total dust**Respirable fraction</td>
</tr>
<tr>
<td></td>
<td>10* 5** mg/m³ REL</td>
</tr>
<tr>
<td></td>
<td>as Al*Total dust**Respirable/pyro powd./welding f.</td>
</tr>
<tr>
<td></td>
<td>1 mg/m³ TLV</td>
</tr>
<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** Nitrile rubber, NBR
9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**
  - **Appearance:**
    - **Form:** Suspension
    - **Color:** Whitish
  - **Odor:** Odorless
  - **Odor threshold:** Not determined.

- **pH-value at 20 °C (68 °F):** 5-7

- **Change in condition**
  - **Melting point/Melting range:** Undetermined.
  - **Boiling point/Boiling range:** Undetermined.

- **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:** Not determined.

- **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:** 12.5 %
  - **VOC content:** 12.50 %
  - **Solids content:** 87.5 %

(Contd. on page 5)
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
  - Keep away from heat.
  - Keep away from oxidizing agents and acidic substances.
  - Keep away from open flames. - No smoking.
- Incompatible materials: No further relevant information available.
- Hazardous decomposition products:
  - Carbon monoxide and carbon dioxide
  - Nitrogen oxides (NOx)

11 Toxicological information

- Information on toxicological effects
- Acute toxicity:
  - LD/LC50 values that are relevant for classification:
    - ATE (Acute Toxicity Estimate)
      - Oral LD50 16,000 mg/kg (rat)
    - 57-55-6 propylene glycol
      - Oral LD50 2,000 mg/kg (rat)
      - Dermal LD50 20,800 mg/kg (rabbit)
    - 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 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.
12 Ecological information

- Toxicity
- Aquatic toxicity: No further relevant information available.
- Persistence and degradability: Not easily biodegradable
- Behavior in environmental systems:
  - Bioaccumulative potential: Non significant accumulation in organisms
  - 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.
- 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
  - DOT, ADN, IMDG, IATA: 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.
Product name: Alumina Polishing Suspension, De-agglomerated, 0.05 micron and High Purity, De-agglomerated 0.05 - 5 micron

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):
      57-55-6 propylene glycol
      1344-28-1 aluminium oxide
    · TSCA new (21st Century Act) (Substances not listed)
      Proprietary Ingredient
  · 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
· Date of preparation / last revision 06/18/2018 / -
· 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
Product name: Alumina Polishing Suspension, De-agglomerated, 0.05 micron and High Purity, De-agglomerated 0.05 - 5 micron

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)
LD50: Lethal dose, 50 percent
LC50: Lethal concentration, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
tvPvB: 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