1 Identification

- **Product name:** Colloidal Silica/Alumina Polishing Solution, 0.05 micron
- **Part number:** 180-70000, -70010, -70015
- **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** Health = 0
  - **FIRE** Fire = 0
  - **REACTIVITY** Reactivity = 0
- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.

(Contd. on page 2)
Product name: Colloidal Silica/Alumina Polishing Solution, 0.05 micron

· 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></th>
</tr>
</thead>
<tbody>
<tr>
<td>7631-86-9 silicon dioxide, chemically prepared</td>
<td>Acute Tox. 4, H332 10-25%</td>
</tr>
<tr>
<td>57-55-6 propylene glycol</td>
<td>Acute Tox. 4, H302 10-25%</td>
</tr>
<tr>
<td>1344-28-1 aluminium oxide</td>
<td>10-25%</td>
</tr>
</tbody>
</table>

· Non-hazardous Components:
  Proprietary Ingredient 50-100%
  Dye ≤2.5%

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: Wear self-contained respiratory protective device.

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.
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: Store in a cool location.
  · Information about storage in one common storage facility:
    Store away from oxidizing agents.
    Store away from foodstuffs.
  · 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:
  7631-86-9 silicon dioxide, chemically prepared
    PEL Long-term value: 6 mg/m³
    TLV Long-term value: 10 mg/m³
  57-55-6 propylene glycol
    WEEL Long-term value: 10 mg/m³
  1344-28-1 aluminium oxide
    PEL Long-term value: 15*, 5** mg/m³
      *Total dust; **Respirable fraction
    REL Long-term value: 10* 5** mg/m³
      as Al*Total dust**Respirable/pyro powd./welding f.
    TLV Long-term value: 1* mg/m³
      as Al; *as respirable fraction

(Contd. on page 4)
Product name: Colloidal Silica/Alumina Polishing Solution, 0.05 micron

- **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
  - **Penetration time of glove material**
    The exact breakthrough 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:** Solution
      - **Color:** Light blue
    - **Odor:** Odorless
    - **Odor threshold:** Not determined.
  - **pH-value:** Not determined.
  - **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**
    - **Vapor density**
    - **Evaporation rate**
  - **Solubility in / Miscibility with**
    - **Water:** Fully miscible.
  - **Partition coefficient (n-octanol/water):** Not determined.
  - **Viscosity:**
    - **Dynamic:** Not determined.
    - **Kinematic:** Not determined.
## Product name: Colloidal Silica/Alumina Polishing Solution, 0.05 micron

<table>
<thead>
<tr>
<th>Solvent content:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Organic solvents:</td>
<td>11.0 %</td>
</tr>
<tr>
<td>VOC content:</td>
<td>11.0 %</td>
</tr>
<tr>
<td></td>
<td>164.3 g/l / 1.37 lb/gl</td>
</tr>
</tbody>
</table>

Solids content: 89.0 %

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
    - Excessive heat
    - Keep away from oxidising agents and acidic substances.

Incompatible materials: No further relevant information available.

Hazardous decomposition products:
- Nitrogen oxides
- Carbon monoxide and carbon dioxide

### 11 Toxicological information

Information on toxicological effects

- **Acute toxicity**:
  - **LD/LC50 values that are relevant for classification**:
    - **ATE (Acute Toxicity Estimate)**
      - Oral LD50 18,133 mg/kg (rat)
      - Dermal LD50 9,112 mg/kg (rabbit)
      - Inhalative LC50/4 h 49.9 mg/l

7631-86-9 silicon dioxide, chemically prepared
- Oral LD50 7,000 mg/kg (mouse)
- Dermal LD50 2,010 mg/kg (rabbit)
- Inhalative LC50/4 h 11 mg/l (ATE)

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
12 Ecological information

- Toxicity
  - Aquatic toxicity: No further relevant information available.
  - Persistence and degradability: Not easily biodegradable
- 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.
  - 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
    - Class: not regulated
Product name: Colloidal Silica/Alumina Polishing Solution, 0.05 micron

- Packing group
  - DOT, IMDG, IATA: not regulated

- Environmental hazards:
  - Marine pollutant: No

- Special precautions for user
  - Stowage Category: A

- 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):
    - 7631-86-9 silicon dioxide, chemically prepared
    - 57-55-6 propylene glycol
    - 1344-28-1 aluminium oxide
  - TSCA new (21st Century Act) (Substances not listed)
    - Proprietary Ingredient
    - Dye
  - 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.
Product name: Colloidal Silica/Alumina Polishing Solution, 0.05 micron

· 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 06/15/2018 /
· 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
  Acute Tox. 4: Acute toxicity – Category 4