1 Identification

· **Product name**: Colloidal Silica Suspension, Non-Crystallizing, 0.02 micron

· **Part number**: 180-40000, -40010, -40015

· **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 Suspension, Non-Crystallizing, 0.02 micron

3 Composition/information on ingredients

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

Hazardous Components:
- 7631-86-9 silicon dioxide, chemically prepared [Acute Tox. 4, H332 25-50%]
- 57-55-6 propylene glycol [Acute Tox. 4, H302 10-<25%]

Non-hazardous Components:
- 7732-18-5 water, distilled, conductivity or of similar purity 50-100%

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:
  - CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- 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.
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:

<table>
<thead>
<tr>
<th>Substance</th>
<th>PEL Long-term value</th>
<th>TLV Long-term value</th>
<th>WEEL Long-term value</th>
</tr>
</thead>
<tbody>
<tr>
<td>7631-86-9 silicon dioxide, chemically prepared</td>
<td>6 mg/m³</td>
<td>10 mg/m³</td>
<td>10 mg/m³</td>
</tr>
<tr>
<td>57-55-6 propylene glycol</td>
<td></td>
<td></td>
<td></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
    - Recommended thickness of the material: ≥ 0.4 mm
  - 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.
    - Break through time: > 10 min
  - Eye protection: Goggles recommended during refilling.

9 Physical and chemical properties

- Information on basic physical and chemical properties
  - General Information
  - Appearance:
    - Form: Suspension
    - Color: Light blue
    - Odor: Odorless
Product name: Colloidal Silica Suspension, Non-Crystallizing, 0.02 micron

| · Odor threshold: | Not determined. |
| · pH-value at 20 °C (68 °F): | 10.5 |
| · 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. |
| · Ignition temperature: | |
| · 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 mm Hg) |
| · Density at 20 °C (68 °F): | 1.2 g/cm³ (10.014 lbs/gal) |
| · 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: | 16.7 % |
| Water: | 54.2 % |
| VOC content: | 16.7 % |
| | 200.0 g/l / 1.67 lb/gl |
| Solids content: | 29.2 % |
| · 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: No dangerous decomposition products known.
Product name: Colloidal Silica Suspension, Non-Crystallizing, 0.02 micron

11 Toxicological information

· Information on toxicological effects

· Acute toxicity:

· LD/LC50 values that are relevant for classification:

<table>
<thead>
<tr>
<th>ATE (Acute Toxicity Estimates)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral LD50</td>
</tr>
<tr>
<td>Dermal LD50</td>
</tr>
<tr>
<td>Inhalative LC50/4 h</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

<table>
<thead>
<tr>
<th>IARC (International Agency for Research on Cancer)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7631-86-9 silicon dioxide, chemically prepared</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NTP (National Toxicology Program)</th>
</tr>
</thead>
<tbody>
<tr>
<td>None of the ingredients is listed.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OSHA-Ca (Occupational Safety &amp; Health Administration)</th>
</tr>
</thead>
<tbody>
<tr>
<td>None of the ingredients is listed.</td>
</tr>
</tbody>
</table>

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.
Product name: Colloidal Silica Suspension, Non-Crystallizing, 0.02 micron

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.
- 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):
  None of the ingredients is listed.
- 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 Silica Suspension, Non-Crystallizing, 0.02 micron

· Carcinogenic categories
  · EPA (Environmental Protection Agency)
    None of the ingredients is listed.
  · 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 Dermit
· Date of preparation / last revision 04/04/2016 / -
· 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
  BEI: Biological Exposure Limit
  Acute Tox. 4: Acute toxicity – Category 4