1 Identification

- Product name: Colloidal Silica Suspension, Water free, 0.05 micron
- Part number: 180-22010
- 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@alliedhighproducts.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
  
  GHS08 Health hazard

  STOT RE 2  H373  May cause damage to the lung, the kidneys, the liver, the reproductive system, the mucous membrane, the blood and the nervous system through prolonged or repeated exposure.

- Label elements
  - GHS label elements: The product is classified and labeled according to the Globally Harmonized System (GHS).
  - Hazard pictograms
    
    GHS08

- Signal word: Warning
- Hazard statements
  May cause damage to the lung, the kidneys, the liver, the reproductive system, the mucous membrane, the blood and the nervous system through prolonged or repeated exposure.
- Precautionary statements
  Do not breathe dust/fume/gas/mist/vapors/spray.
  Get medical advice/attention if you feel unwell.

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

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

- Hazardous Components:

<table>
<thead>
<tr>
<th>Substance</th>
<th>Hazard</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>107-21-1 ethylene glycol</td>
<td>Acute Tox. 4, H302</td>
<td>50-100%</td>
</tr>
<tr>
<td>7631-86-9 silicon dioxide, chemically prepared</td>
<td>Acute Tox. 4, H332</td>
<td>25-50%</td>
</tr>
</tbody>
</table>

4 First-aid measures

- Description of first aid measures
- General information:
  Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

- 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:
  During heating or in case of fire poisonous gases are produced.
Product name: Colloidal Silica Suspension, Water free, 0.05 micron

- Advice for firefighters
- Protective equipment: Mouth respiratory protective device.

6 Accidental release measures

- Personal precautions, protective equipment and emergency procedures: Mount respiratory protective device.
- 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).
  Dispose contaminated material as waste according to item 13.
  Ensure adequate ventilation.
- 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
  · PAC-1:
    | 107-21-1 ethylene glycol | 30 ppm |
    | 7631-86-9 silicon dioxide, chemically prepared | 18 mg/m³ |
  · PAC-2:
    | 107-21-1 ethylene glycol | 150 ppm |
    | 7631-86-9 silicon dioxide, chemically prepared | 740 mg/m³ |
  · PAC-3:
    | 107-21-1 ethylene glycol | 900 ppm |
    | 7631-86-9 silicon dioxide, chemically prepared | 4,500 mg/m³ |

7 Handling and storage

- Handling:
  · Precautions for safe handling: Prevent formation of aerosols.
  · Information about protection against explosions and fires: Keep respiratory protective device available.
- 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: Store receptacle in a well ventilated area.
- 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:
    107-21-1 ethylene glycol
    | TLV | Short-term value: 10** mg/m³, 50* ppm |
    |     | Long-term value: 25* ppm |
    |     | *vapor fraction: **inh. fraction, aerosol only |
Product name: Colloidal Silica Suspension, Water free, 0.05 micron

WEEL I (2)

7631-86-9 silicon dioxide, chemically prepared

PEL Long-term value: 6 mg/m³
TLV Long-term value: 10 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.
  Wash hands before breaks and at the end of work.
  Store protective clothing separately.
· Breathing equipment: Use suitable respiratory protective device when high concentrations are present.
· Protection of hands:

  Protective gloves

· Material of gloves
  Nitrile rubber, NBR
  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: Suspension
  Color: Translucent
· Odor: Mild
· Odor threshold: Not determined.
· pH-value at 20 °C (68 °F): 4 (5% in DI water)
· Change in condition
  Melting point/Melting range: 5 °C (41 °F) (est.)
  Boiling point/Boiling range: 197 °C (386.6 °F)
· Flash point: 240 °C (464 °F)
· Flammability (solid, gaseous): Not applicable.
· Ignition temperature: 410 °C (770 °F)
· Decomposition temperature: Not determined.
**Product name: Colloidal Silica Suspension, Water free, 0.05 micron**

### 4. Auto igniting
- **Product is not selfigniting.**

### 5. Danger of explosion
- **Product does not present an explosion hazard.**

#### 5.1. Explosion limits
- **Lower:** 3.2 Vol %
- **Upper:** 15.3 Vol %

#### 5.2. Vapor pressure at 20 °C (68 °F)
- 0.1 hPa (0.1 mm Hg) (est.)

#### 5.3. Density
- Not determined.

#### 5.4. Relative density
- Not determined.

#### 5.5. Vapor density at 20 °C (68 °F)
- 2.14 (est.)

#### 5.6. Specific gravity
- 1.24

#### 5.7. Evaporation rate
- <<1

#### 5.8. Solubility in / Miscibility with Water
- Fully miscible.

#### 5.9. Partition coefficient (n-octanol/water)
- Not determined.

#### 5.10. Viscosity
- **Dynamic:** Not determined.
- **Kinematic:** Not determined.

#### 5.11. Solvent content
- **VOC content:** 73.91 %
  - 739.1 g/l / 6.17 lb/gl

#### 5.12. Solids content:
- 26.1 %

#### 5.13. 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:** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** 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)**
      - **Dermal** LD50: 7,705 mg/kg (rabbit)
      - **Inhalative** LC50/4 h: 42.2 mg/l

#### 107-21-1 ethylene glycol
- **Oral** LD50: 5,840 mg/kg (rat)
- **Dermal** LD50: 9,430 mg/kg (rabbit)
**Product name:** Colloidal Silica Suspension, Water free, 0.05 micron

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
<th>Inhalative LC50/4 h</th>
</tr>
</thead>
<tbody>
<tr>
<td>7631-86-9 silicon dioxide, chemically prepared</td>
<td>7,000 mg/kg (mouse)</td>
<td>2,010 mg/kg (rabbit)</td>
<td>11 mg/l (ATE)</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

- **Carcinogenic categories**
  - **IARC (International Agency for Research on Cancer)**
    - 7631-86-9 silicon dioxide, chemically prepared 3
  - **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** Moderately /partly 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: 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 MARPOL 73/78 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):**

    107-21-1 ethylene glycol

  - **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:**

    107-21-1 ethylene glycol

- **Carcinogenic categories**

  - **EPA (Environmental Protection Agency)**

    None of the ingredients is listed.

  - **TLV (Threshold Limit Value established by ACGIH)**

    107-21-1 ethylene glycol
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:** 06/14/2018 / -
- **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)
  - NFFA: 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
  - REL: Recommended Exposure Limit
  - Acute Tox. 4: Acute toxicity – Category 4
  - STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

· **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.