1 Identification

· Product name: Diamond Slurry, Polycrystalline, 0.05 and 0.1 microns
· Part number: 90-22995-S - 90-23000-S
· 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

![GHS07]

Acute Tox. 4  H332  Harmful if inhaled.
Skin Sens. 1  H317  May cause an allergic skin reaction.
Flam. Liq. 4  H227  Combustible liquid.

· 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-determining components of labeling:
  Fund Silica, Crystalline Free
  ethylene glycol monobutyl ether
  mequinol
· Hazard statements
  Combustible liquid.
  Harmful if inhaled.

(Contd. on page 2)
Product name: Diamond Slurry, Polycrystalline, 0.05 and 0.1 microns

May cause an allergic skin reaction.

- **Precautionary statements**
  - Keep away from flames and hot surfaces. – No smoking.
  - Avoid breathing dust/fume/gas/mist/vapors/spray
  - Use only outdoors or in a well-ventilated area.
  - Contaminated work clothing must not be allowed out of the workplace.
  - Wear protective gloves/protective clothing/eye protection/face protection.
  - If on skin: Wash with plenty of water.
  - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
  - Call a poison center/doctor if you feel unwell.
  - Specific treatment (see on this label).
  - If skin irritation or rash occurs: Get medical advice/attention.
  - Wash contaminated clothing before reuse.
  - In case of fire: Use for extinction: CO2, powder or water spray.
  - Store in a well-ventilated place. Keep cool.
  - Dispose of contents/container in accordance with local/regional/national/international regulations.

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

- **HMIS-ratings (scale 0 - 4)**
  - Health = 1
  - Fire = 2
  - 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></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>112945-52-5</td>
<td>Fumed Silica, Crystalline Free</td>
<td>1-10%</td>
</tr>
<tr>
<td>150-76-3</td>
<td>mequmol</td>
<td>≥0.1-&lt;1%</td>
</tr>
<tr>
<td>111-76-2</td>
<td>ethylene glycol monobutyl ether</td>
<td>≤1%</td>
</tr>
</tbody>
</table>

- **Non-hazardous Components:**
  - 9038-95-3 | polyalkylene glycol monobutyl ether | 50-100% |
  - 7782-40-3 | Diamond | 1-10% |

**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. (Contd. on page 3)
Product name: Diamond Slurry, Polycrystalline, 0.05 and 0.1 microns

- **After inhalation:**
  Supply fresh air and to be sure call for a doctor.
  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.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
  - Most important symptoms and effects, both acute and delayed
    - Headache
    - Coughing
    - Gastric or intestinal disorders
    - Nausea
  - **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:** Mouth respiratory protective device.

6 **Accidental release measures**

- **Personal precautions, protective equipment and emergency procedures** Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
  Do not allow to enter sewers/ surface or ground water.
  Prevent seepage into sewage system, workpits and cellars.
  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**

<table>
<thead>
<tr>
<th>PAC-1:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>112945-52-5</td>
<td>Fund Silica, Crystalline Free</td>
</tr>
<tr>
<td>7782-40-3</td>
<td>Diamond</td>
</tr>
<tr>
<td>150-76-5</td>
<td>mequinol</td>
</tr>
<tr>
<td>111-76-2</td>
<td>ethylene glycol monobutyl ether</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PAC-2:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>112945-52-5</td>
<td>Fund Silica, Crystalline Free</td>
</tr>
<tr>
<td>7782-40-3</td>
<td>Diamond</td>
</tr>
<tr>
<td>150-76-5</td>
<td>mequinol</td>
</tr>
<tr>
<td>111-76-2</td>
<td>ethylene glycol monobutyl ether</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PAC-3:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>112945-52-5</td>
<td>Fund Silica, Crystalline Free</td>
</tr>
<tr>
<td>7782-40-3</td>
<td>Diamond</td>
</tr>
<tr>
<td>150-76-5</td>
<td>mequinol</td>
</tr>
<tr>
<td>111-76-2</td>
<td>ethylene glycol monobutyl ether</td>
</tr>
</tbody>
</table>
Product name: Diamond Slurry, Polycrystalline, 0.05 and 0.1 microns

7 Handling and storage

- **Handling:**
- Precautions for safe handling: Prevent formation of aerosols.
- Information about protection against explosions and fires: Keep ignition sources away - Do not smoke.
- 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.
  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

<table>
<thead>
<tr>
<th>Component Description</th>
<th>Limit Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>112945-52-5 Fumed Silica, Crystalline Free</td>
<td>TWA</td>
</tr>
<tr>
<td>150-76-5 Mequinol</td>
<td>REL</td>
</tr>
<tr>
<td></td>
<td>TLV</td>
</tr>
<tr>
<td>111-76-2 Ethylene glycol monobutyl ether</td>
<td>PEL</td>
</tr>
<tr>
<td></td>
<td>REL</td>
</tr>
<tr>
<td></td>
<td>TLV</td>
</tr>
</tbody>
</table>

- Ingredients with biological limit values:

<table>
<thead>
<tr>
<th>Component Description</th>
<th>Limit Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>111-76-2 Ethylene glycol monobutyl ether</td>
<td>BEI</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<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: Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work.
  Breathing equipment: Use suitable respiratory protective device when high concentrations are present.
- Protection of hands:

- Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

(Contd. on page 5)
Product name: Diamond Slurry, Polycrystalline, 0.05 and 0.1 microns

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves** Butyl rubber, BR
- **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**: Goggles recommended during refilling.

### 9 Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Form</strong></td>
<td>Solution</td>
</tr>
<tr>
<td><strong>Color</strong></td>
<td>Yellowish</td>
</tr>
<tr>
<td><strong>Odor</strong></td>
<td>Mild</td>
</tr>
<tr>
<td><strong>Odor threshold</strong></td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>pH-value</strong></td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Melting point/Melting range</strong></td>
<td>-9 °C (15.8 °F)</td>
</tr>
<tr>
<td><strong>Boiling point/Boiling range</strong></td>
<td>171 °C (339.8 °F)</td>
</tr>
<tr>
<td><strong>Flash point</strong></td>
<td>90 °C (194 °F)</td>
</tr>
<tr>
<td><strong>Flammability (solid, gaseous)</strong></td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>Decomposition temperature</strong></td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Auto igniting</strong></td>
<td>Product is not selfigniting.</td>
</tr>
<tr>
<td><strong>Danger of explosion</strong></td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Explosion limits</strong></td>
<td></td>
</tr>
<tr>
<td>Lower</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Upper</td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Vapor pressure</strong></td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Density</strong></td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Relative density</strong></td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Vapor density</strong></td>
<td>≥1</td>
</tr>
<tr>
<td><strong>Evaporation rate</strong></td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Solubility in / Miscibility with</strong></td>
<td>Not miscible or difficult to mix.</td>
</tr>
<tr>
<td>Water</td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Partition coefficient (n-octanol/water)</strong></td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Viscosity</strong></td>
<td>Not determined.</td>
</tr>
<tr>
<td>Dynamic</td>
<td></td>
</tr>
<tr>
<td>Kinematic</td>
<td></td>
</tr>
<tr>
<td><strong>Solvent content</strong></td>
<td></td>
</tr>
<tr>
<td>Organic solvents</td>
<td>0.2 %</td>
</tr>
<tr>
<td><strong>VOC content</strong></td>
<td>0.19 %</td>
</tr>
<tr>
<td></td>
<td>1.9 g/l / 0.02 lb/gal</td>
</tr>
<tr>
<td><strong>Solids content</strong></td>
<td>99.8 %</td>
</tr>
<tr>
<td><strong>Other information</strong></td>
<td>No further relevant information available.</td>
</tr>
</tbody>
</table>

### 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.
Product name: Diamond Slurry, Polycrystalline, 0.05 and 0.1 microns

- **Possibility of hazardous reactions**: No dangerous reactions known.
- **Conditions to avoid**:
  - Alkaline earth metals
  - Keep away from oxidising agents and acidic substances.
  - Excessive heat
- **Incompatible materials**: No further relevant information available.
- **Hazardous decomposition products**: Carbon monoxide and carbon dioxide
- **Additional information**: Hazardous decomposition products may form during combustion.

# 11 Toxicological information

- **Information on toxicological effects**
  - **Acute toxicity**:
    - **LD/LC50 values that are relevant for classification**:
      - **ATE (Acute Toxicity Estimate)**
        - **Inhalative**: LC50/4 h >14.7 mg/l (rat)
      - **9038-95-3 polyalkylene glycol monobutyl ether**
        - **Dermal**: LD50 16,960 mg/kg (rabbit)
      - **112945-52-5 Fund Silica, Crystalline Free**
        - **Oral**: LD50 >5,110 mg/kg (rat)
        - **Dermal**: LD50 >5,000 mg/kg (rabbit)
        - **Inhalative**: LC50/4 h >0.691 mg/l (rat)
      - **150-76-5 mequinol**
        - **Oral**: LD50 1,600 mg/kg (rat)
        - **Dermal**: LD50 5,010 mg/kg (rat)
      - **111-76-2 ethylene glycol monobutyl ether**
        - **Oral**: LD50 1,480 mg/kg (rat)
        - **Dermal**: LD50 400 mg/kg (rabbit)
        - **Inhalative**: LC50/4 h 2.2 mg/l (rat)
    - **Primary chemical irritant effect**:
      - **on the skin**: No irritant effect.
      - **on the eye**: No irritating effect.
      - **Sensitization**: Sensitization possible through skin contact.
  - **Additional toxicological information**:
    - **Carcinogenic categories**
      - **IARC (International Agency for Research on Cancer)**
        - 111-76-2 ethylene glycol monobutyl ether
          - 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**:
    - 111-76-2 ethylene glycol monobutyl ether
      - EC50 (48 h) (static) 1,550 mg/l (daphnia)
  - **Persistence and degradability**: No further relevant information available.

(Contd. on page 7)
Product name: Diamond Slurry, Polycrystalline, 0.05 and 0.1 microns

- 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.

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: 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.
- 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):
  - 111-76-2: ethylene glycol monobutyl ether
- TSCA (Toxic Substances Control Act):
  All components have the value ACTIVE.
- Hazardous Air Pollutants
  None of the ingredients is listed.
Product name: Diamond Slurry, Polycrystalline, 0.05 and 0.1 microns

(Contd. of page 7)

· 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) |
| 111-76-2 ethylene glycol monobutyl ether | NL |

| · TLV (Threshold Limit Value established by ACGIH) |
| 111-76-2 ethylene glycol monobutyl ether | A3 |

| · 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: 04/30/2020 / 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
  BEI: Biological Exposure Limit
  Flam. Liq. 4: Flammable liquids – Category 4
  Acute Tox. 4: Acute toxicity – Category 4
  Acute Tox. 3: Acute toxicity – Category 3
  Skin Irrit. 2: Skin corrosion/irritation – Category 2
  Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
  Skin Sens. 1: Skin sensitisation – Category 1