1 Identification

- **Product name:** Alumina Powder 0.05, 0.3, 1.0 micron / Aluminum Oxide Abrasive Powder 3, 5, 9, 15, 30 micron

  - **Part number:**
    - 90-187015 - 90-187195
    - 90-130005 - 90-130050

- **CAS Number:**
  - 1344-28-1

- **EC number:**
  - 215-691-6

- **Application of the substance / the mixture**: Abrasive

- **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 substance 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 = 2
  - Fire = 0
  - Reactivity = 0

- **HMIS-ratings (scale 0 - 4)**

- **Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

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

- Chemical characterization: Substances
- CAS No. Description
  1344-28-1 aluminium oxide
- Identification number(s)
- EC number: 215-691-6

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
  Headache
  Coughing

- 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: No special measures required.
- Methods and material for containment and cleaning up: Pick up mechanically.
- 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</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PAC-1</td>
<td>15 mg/m³</td>
</tr>
<tr>
<td>PAC-2</td>
<td>170 mg/m³</td>
</tr>
<tr>
<td>PAC-3</td>
<td>990 mg/m³</td>
</tr>
</tbody>
</table>

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.
Product name: Alumina Powder 0.05, 0.3, 1.0 micron / Aluminum Oxide Abrasive Powder 3, 5, 9, 15, 30 micron

No special requirements.

- 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:
    | Substance       | Limit Value | Unit |
    |-----------------|-------------|------|
    | 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 |

  - 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.
    Use suitable respiratory protective device in case of insufficient ventilation.
  - Protection of hands:
    Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
  - Material of gloves
    The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
  - 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: Safety glasses

9 Physical and chemical properties

- Information on basic physical and chemical properties
  - General Information
    - Appearance:
      | Property     | Value       |
      |--------------|-------------|
      | Form         | Powder      |
      | Color        | White       |
      | Odor         | Odorless    |
      | Odor threshold | Not determined. |
    - pH-value: Not applicable.
    - Change in condition
      | Property        | Value       |
      |-----------------|-------------|
      | Melting point/Melting range | 2,050 °C (35.750 °F) |
      | Boiling point/Boiling range  | 60 °C (140 °F) |
    - Flash point: Not applicable.
    - Flammability (solid, gaseous): Product is not flammable.
    - Decomposition temperature: Not determined.
    - Auto igniting: Not determined.
    - Danger of explosion: Product does not present an explosion hazard.
Product name: Alumina Powder 0.05, 0.3, 1.0 micron / Aluminum Oxide Abrasive Powder 3, 5, 9, 15, 30 micron

(Contd. of page 3)

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explosion limits:</td>
<td></td>
</tr>
<tr>
<td>Lower:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Upper:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Vapor pressure:</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Density at 20 °C (68 °F):</td>
<td>3.97 g/cm³ (33.12965 lbs/gal)</td>
</tr>
<tr>
<td>Bulk density:</td>
<td>920 kg/m³</td>
</tr>
<tr>
<td>Relative density</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Vapor density</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Specific gravity</td>
<td>3.98 (Water = 1)</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Solubility in / Miscibility with</td>
<td></td>
</tr>
<tr>
<td>Water:</td>
<td>Insoluble.</td>
</tr>
<tr>
<td>Partition coefficient (n-octanol/water):</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Viscosity:</td>
<td></td>
</tr>
<tr>
<td>Dynamic:</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Kinematic:</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>VOC content:</td>
<td>0.00 %</td>
</tr>
<tr>
<td>Solids content:</td>
<td>100.0 %</td>
</tr>
<tr>
<td>Other information</td>
<td>No further relevant information available.</td>
</tr>
</tbody>
</table>

10 Stability and reactivity

- Reactivity: No further relevant information available.
- Chemical stability: No further relevant information available.
- 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: No dangerous decomposition products known.

11 Toxicological information

- Information on toxicological effects: No further relevant information available.
- Acute toxicity:

  1344-28-1 aluminium oxide

<table>
<thead>
<tr>
<th>Route</th>
<th>LD50 or LC50</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>LD50</td>
<td>5,010 mg/kg (rat)</td>
</tr>
<tr>
<td>Inhalative</td>
<td>LC50/4 h</td>
<td>&gt;6 mg/l (rat)</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. The substance is not subject to classification.

(Contd. on page 5)
Product name: Alumina Powder 0.05, 0.3, 1.0 micron / Aluminum Oxide Abrasive Powder 3, 5, 9, 15, 30 micron

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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: Not hazardous for water.
- 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
  - Class: not regulated

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

- Environmental hazards:
  - Marine pollutant: No

- Special precautions for user
  - Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: Not applicable.
  - UN "Model Regulation": not regulated

(Contd. on page 6)
15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
  - Sara
    - Section 355 (extremely hazardous substances):
      - Substance is not listed.
    - Section 313 (Specific toxic chemical listings):
      - Substance is listed.
    - TSCA (Toxic Substances Control Act):
      - ACTIVE
  - Hazardous Air Pollutants
    - Substance is not listed.
  - Proposition 65
    - Chemicals known to cause cancer:
      - Substance is not listed.
    - Chemicals known to cause reproductive toxicity for females:
      - Substance is not listed.
    - Chemicals known to cause reproductive toxicity for males:
      - Substance is not listed.
    - Chemicals known to cause developmental toxicity:
      - Substance is not listed.

- Carcinogenic categories

- EPA (Environmental Protection Agency)
  - Substance is not listed.

- TLV (Threshold Limit Value established by ACGIH)
  - A4

- NIOSH-Ca (National Institute for Occupational Safety and Health)
  - Substance is not 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
- 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
Product name: Alumina Powder 0.05, 0.3, 1.0 micron / Aluminum Oxide Abrasive Powder 3, 5, 9, 15, 30 micron

PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit

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