1 Identification

· Product name: Aluminum Oxide Cut-Off & Wafering Blades, Resin Bond

· Part number:
  80-10001 - 80-10025
  80-30000 - 80-30035
  80-40000 - 80-40040
  80-50000 - 80-50040

· Application of the substance / the mixture: Abrasive blade

· 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

  Skin Irrit. 2  H315  Causes skin irritation.
  Eye Irrit. 2A  H319  Causes serious eye irritation.

· Additional information: Classification may change depending on the exact product composition.

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

  GHS07

· Signal word Warning

(Contd. on page 2)
Product name: Aluminum Oxide Cut-Off & Wafering Blades, Resin Bond

· Hazard statements
Causes skin irritation.
Causes serious eye irritation.

· Precautionary statements
Wash thoroughly after handling.
Wear protective gloves / eye protection / face protection.
If on skin: Wash with plenty of water.
Specific treatment (see on this label).
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.
If skin irritation occurs: Get medical advice/attention.
Take off contaminated clothing and wash it before reuse.
If eye irritation persists: Get medical advice/attention.

· Classification system:
· NFPA ratings (scale 0 - 4)

   Health = 1
   Fire = 0
   Reactivity = 0

· HMIS-ratings (scale 0 - 4)

   HEALTH
   Health = 1
   FIRE
   Fire = 0
   REACTIVITY
   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.

· Hazardous Components:
  1344-28-1 aluminium oxide 50-100%
  7789-75-5 calcium fluoride 2.5-10%
  1309-37-1 diiron trioxide 2.5-10%
  8002-74-2 Paraffin waxes and Hydrocarbon waxes 2.5-10%
  14075-53-7 potassium tetrafluoroborate ≤2.5%
  1305-62-0 calcium dihydroxide ≤2.5%
  12068-85-8 Iron Disulphide
  1314-98-3 zinc sulphide

· Non-hazardous Components:
  Polymeric Resin (cured) 2.5-10%
  Epoxy (cured) 2.5-10%

(Contd. on page 3)
Product name: Aluminum Oxide Cut-Off & Wafering Blades, Resin Bond

4 First-aid measures

· Description of first aid measures
  · After inhalation: 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. If symptoms persist, consult a doctor.
  · 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: No special measures required.

6 Accidental release measures

· Personal precautions, protective equipment and emergency procedures Not required.
· Environmental precautions: Do not allow product to reach sewage system or any water course.
· 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
  · PAC-1:

<table>
<thead>
<tr>
<th>Chemical ID</th>
<th>Chemical Name</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1344-28-1</td>
<td>aluminium oxide</td>
<td>15 mg/m³</td>
</tr>
<tr>
<td>7789-75-5</td>
<td>calcium fluoride</td>
<td>15 mg/m³</td>
</tr>
<tr>
<td>1309-37-1</td>
<td>diiron trioxide</td>
<td>15 mg/m³</td>
</tr>
<tr>
<td>12068-85-8</td>
<td>Iron Disulphide</td>
<td>30 mg/m³</td>
</tr>
<tr>
<td>1314-98-3</td>
<td>zinc sulphide</td>
<td>8.9 mg/m³</td>
</tr>
<tr>
<td>14075-53-7</td>
<td>potassium tetrafluoroborate</td>
<td>12 mg/m³</td>
</tr>
<tr>
<td>1305-62-0</td>
<td>calcium dihydroxide</td>
<td>15 mg/m³</td>
</tr>
</tbody>
</table>

  · PAC-2:

<table>
<thead>
<tr>
<th>Chemical ID</th>
<th>Chemical Name</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1344-28-1</td>
<td>aluminium oxide</td>
<td>170 mg/m³</td>
</tr>
<tr>
<td>7789-75-5</td>
<td>calcium fluoride</td>
<td>170 mg/m³</td>
</tr>
<tr>
<td>1309-37-1</td>
<td>diiron trioxide</td>
<td>360 mg/m³</td>
</tr>
<tr>
<td>12068-85-8</td>
<td>Iron Disulphide</td>
<td>330 mg/m³</td>
</tr>
<tr>
<td>1314-98-3</td>
<td>zinc sulphide</td>
<td>99 mg/m³</td>
</tr>
</tbody>
</table>
7 Handling and storage

- Handling:
  - Precautions for safe handling: Any deposit of dust which cannot be avoided must be regularly removed.
  - 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 dry place.
  - Information about storage in one common storage facility: Store away from foodstuffs.
  - Further information about storage conditions: Keep receptacle tightly sealed.
  - 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:

    | 1344-28-1 aluminium oxide | 15* 5** mg/m³ |
    | 7789-75-5 calcium fluoride | 2.5 mg/m³ |
    | 1305-62-0 calcium dihydroxide | 830 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

    7789-75-5 calcium fluoride

    PEL Long-term value: 2.5 mg/m³
    as F

    REL Long-term value: 2.5 mg/m³
    as F

    TLV Long-term value: 2.5 mg/m³
    as F, BEI
## Ingredients with biological limit values:

### 7789-75-5 calcium fluoride

<table>
<thead>
<tr>
<th>BEI</th>
<th>2 mg/L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medium: urine</td>
<td></td>
</tr>
<tr>
<td>Time: prior to shift</td>
<td></td>
</tr>
<tr>
<td>Parameter: Fluoride (background, nonspecific)</td>
<td></td>
</tr>
<tr>
<td>3 mg/L</td>
<td></td>
</tr>
<tr>
<td>Medium: urine</td>
<td></td>
</tr>
<tr>
<td>Time: end of shift</td>
<td></td>
</tr>
<tr>
<td>Parameter: Fluoride (background, nonspecific)</td>
<td></td>
</tr>
</tbody>
</table>

### 14075-53-7 potassium tetrafluoroborate

<table>
<thead>
<tr>
<th>BEI</th>
<th>2 mg/L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medium: urine</td>
<td></td>
</tr>
<tr>
<td>Time: prior to shift</td>
<td></td>
</tr>
<tr>
<td>Parameter: Fluoride (background, nonspecific)</td>
<td></td>
</tr>
<tr>
<td>3 mg/L</td>
<td></td>
</tr>
<tr>
<td>Medium: urine</td>
<td></td>
</tr>
<tr>
<td>Time: end of shift</td>
<td></td>
</tr>
<tr>
<td>Parameter: Fluoride (background, nonspecific)</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:
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Avoid contact with the eyes and skin.

· **Breathing equipment:** Not required.
· **Protection of hands:**
  Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

![Protective gloves](Image)

· **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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **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](Image)

---

### 9 Physical and chemical properties

<table>
<thead>
<tr>
<th>· <strong>Information on basic physical and chemical properties</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>· <strong>General Information</strong></td>
<td></td>
</tr>
<tr>
<td>· <strong>Appearance:</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Solid</td>
</tr>
<tr>
<td></td>
<td>According to product specification</td>
</tr>
<tr>
<td></td>
<td>Odorless</td>
</tr>
<tr>
<td></td>
<td>Not determined.</td>
</tr>
<tr>
<td></td>
<td>Not applicable.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>· <strong>Change in condition</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Melting point/Melting range:</td>
<td>Undetermined.</td>
</tr>
<tr>
<td>Boiling point/Boiling range:</td>
<td>Undetermined.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>· <strong>Flash point:</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Not applicable.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>· <strong>Flammability (solid, gaseous):</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Not determined.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>· <strong>Decomposition temperature:</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Not determined.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>· <strong>Auto igniting:</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Product is not selfigniting.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>· <strong>Danger of explosion:</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Product does not present an explosion hazard.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>· <strong>Explosion limits:</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower: Not determined.</td>
<td></td>
</tr>
<tr>
<td>Upper: Not determined.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>· <strong>Vapor pressure:</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Not applicable.</td>
<td></td>
</tr>
</tbody>
</table>
### Product name: Aluminum Oxide Cut-Off & Wafering Blades, Resin Bond

<table>
<thead>
<tr>
<th>Density:</th>
<th>Not determined.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relative density:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Vapor density:</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Evaporation rate:</td>
<td>Not applicable.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Solubility in / Miscibility with Water:</th>
<th>Insoluble.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Partition coefficient (n-octanol/water):</td>
<td>Not determined.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Viscosity:</th>
<th>Dynamic: Not applicable.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kinematic:</td>
<td>Not applicable.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Solvent content: VOC content:</th>
<th>0.00 %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.0 g/l / 0.00 lb/gl</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Solids content:</th>
<th>100.0 %</th>
</tr>
</thead>
<tbody>
<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:**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions:** Toxic fumes may be released if heated above the decomposition point.
- **Conditions to avoid:** Keep away from oxidising agents and acidic substances.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:**
  - Aluminum oxides
  - Carbon monoxide and carbon dioxide
- **Additional information:** Hazardous decomposition products may form under fire.

### 11 Toxicological information

- **Information on toxicological effects:**
- **Acute toxicity:**

  | LD/LC50 values that are relevant for classification: |
  | ATE (Acute Toxicity Estimate) |
  | Oral LD50 5,941 mg/kg |
  | Inhalative LC50/4 h >10.3 mg/l (rat) |

1344-28-1 aluminium oxide

| Oral LD50 5,010 mg/kg (rat) |
| Inhalative LC50/4 h >6 mg/l (rat) |

7789-75-5 calcium fluoride

| Oral LD50 4,250 mg/kg (rat) |

1309-37-1 diiron trioxide

| Oral LD50 >5,000 mg/kg (rat) |
Product name: Aluminum Oxide Cut-Off & Wafering Blades, Resin Bond

<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Chemical Name</th>
<th>Oral LD50</th>
<th>Animal</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>14075-53-7</td>
<td>potassium tetrafluoroborate</td>
<td>100 mg/kg (ATE)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1305-62-0</td>
<td>calcium dihydroxide</td>
<td>7,340 mg/kg (rat)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Primary chemical irritant effect:**
  - **on the skin:** Irritant to skin and mucous membranes.
  - **on the eye:** Irritating effect.
  - **Sensitization:** No sensitizing effects known.
  - **Additional toxicological information:** Abrasive skin irritant
  - Abrasive eye irritant

- **Carcinogenic categories**
  - **IARC (International Agency for Research on Cancer)**
    - 7789-75-5 calcium fluoride 3
    - 1309-37-1 diiron trioxide 3
    - 14075-53-7 potassium tetrafluoroborate 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** 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.
- **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
- **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):**
    - 1344-28-1 aluminium oxide
    - 1314-98-3 zinc sulphide
  - **TSCA (Toxic Substances Control Act):**
    - 1344-28-1 aluminium oxide
    - 7789-75-5 calcium fluoride
    - 1309-37-1 diiron trioxide
    - 12068-85-8 Iron Disulphide
    - 1314-98-3 zinc sulphide
    - 8002-74-2 Paraffin waxes and Hydrocarbon waxes
    - 14075-53-7 potassium tetrafluoroborate
    - 1305-62-0 calcium dihydroxide
  - **TSCA new (21st Century Act) (Substances not listed)**
    - Polymeric Resin (cured)
    - Epoxy (cured)
    - 12068-85-8 Iron Disulphide
  - **Proposition 65**
    - **Chemicals known to cause cancer:**
      None of the ingredients is listed.
Product name: Aluminum Oxide Cut-Off & Wafering Blades, Resin Bond

- **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)**
    
    | CAS Number | Chemical Name               | Carcinogenic Category |
    |------------|----------------------------|-----------------------|
    | 1314-98-3  | zinc sulphide              | D, I, II              |
    | 14075-53-7 | potassium tetrafluoroborate | I (oral)              |

  - **TLV (Threshold Limit Value established by ACGIH)**
    
    | CAS Number | Chemical Name               | TLV Classification   |
    |------------|----------------------------|----------------------|
    | 1344-28-1  | aluminium oxide            | A4                   |
    | 7789-75-5  | calcium fluoride            | A4                   |
    | 1309-37-1  | diiron trioxide             | A4                   |
    | 14075-53-7 | potassium tetrafluoroborate | A4                   |

  - **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** 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)
  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. 3: Acute toxicity – Category 3
  Skin Corr. 1B: Skin corrosion/irritation – Category 1B
  Skin Irrit. 2: Skin corrosion/irritation – Category 2
  Eye Dam. 1: Serious eye damage/eye irritation – Category 1
  Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A