1 Identification

· Product name: Aluminum Oxide Lapping Film

· Part number:
  50-20040 - 50-20070
  50-20110 - 50-20140
  50-20200 - 50-20290

· Application of the substance / the mixture: Precision lapping

· 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 = 1
      Fire = 0
      Reactivity = 0
    · HMIS-ratings (scale 0 - 4)
      HEALTH 0
      Fire 0
      Reactivity 0

· Other hazards
  · Results of PBT and vPvB assessment
    · PBT: Not applicable.
    · vPvB: Not applicable.

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

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

- Hazardous Components:
  - 25038-59-9 Polyester Film, Backing 50-100%
  - 1344-28-1 aluminium oxide 10-25%

- Non-hazardous Components:
  - Polyester resin (cured) 1-10%

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: 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

  | PAC-1: | aluminium oxide | 15 mg/m³ |
  | PAC-2: | aluminium oxide | 170 mg/m³ |
  | PAC-3: | aluminium oxide | 990 mg/m³ |

7 Handling and storage

- Handling:
  - Precautions for safe handling No special measures required.
  - Information about protection against explosions and fires: No special measures required.

(Contd on page 3)
Product name: Aluminum Oxide Lapping Film

- 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: 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:
    | 25038-59-9 Polyester Film, Backing |
    |-----------------------------------|
    | TLV Long-term value: 10* 5** mg/m³ |
    | *as total dust **as respirable fraction |
    | 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. 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: Not required.

9 Physical and chemical properties

- Information on basic physical and chemical properties
- General Information
- Appearance:
  - Form: Foil
  - Color: According to product specification
  - Odor: Odorless
  - Odor threshold: Not determined.
- pH-value: Not applicable.
- Change in condition
  - Melting point/Melting range: Undetermined.
**Safety Data Sheet**  
acc. to OSHA HCS

**Product name:** Aluminum Oxide Lapping Film

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Boiling point/Boiling range:</strong></td>
<td>Undetermined.</td>
</tr>
<tr>
<td><strong>Flash point:</strong></td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>Flammability (solid, gaseous):</strong></td>
<td>Not determined.</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>Product does not present an explosion hazard.</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 applicable.</td>
</tr>
<tr>
<td><strong>Density:</strong></td>
<td>Not determined.</td>
</tr>
<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>
<tr>
<td><strong>Solubility in / Miscibility with</strong></td>
<td></td>
</tr>
<tr>
<td>Water</td>
<td>Insoluble.</td>
</tr>
<tr>
<td><strong>Partition coefficient (n-octanol/water):</strong></td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Viscosity:</strong></td>
<td></td>
</tr>
<tr>
<td>Dynamic</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Kinematic</td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>Solvent content:</strong></td>
<td></td>
</tr>
<tr>
<td>VOC content</td>
<td>0.00 %</td>
</tr>
<tr>
<td><strong>Solids content:</strong></td>
<td>100.0 %</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.
- **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:**
- **Acute toxicity:**
  - **LD/LC50 values that are relevant for classification:**
    - **ATE (Acute Toxicity Estimate):**
      - Inhalative LC50/4 h ≥ 27.8 mg/l (rat)
    - **1344-28-1 aluminium oxide:**
      - Oral LD50 5,010 mg/kg (rat)
      - Inhalative LC50/4 h ≥ 6 mg/l (rat)
- **Primary chemical irritant effect:**
  - on the skin: No irritant effect.
  - on the eye: No irritating effect.
- **Sensitization:** No sensitizing effects known.

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Product name: Aluminum Oxide Lapping Film

- **Additional toxicological information:**
  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**
  - IARC (International Agency for Research on Cancer)
    None of the ingredients is listed.
  - 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: 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: 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):
      1344-28-1 aluminium oxide
    · TSCA (Toxic Substances Control Act):
      All components have the value ACTIVE.
    · Hazardous Air Pollutants
      None of the ingredients is 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.
  · Carcinogenic categories
    · EPA (Environmental Protection Agency)
      None of the ingredients is listed.
    · TLV (Threshold Limit Value established by ACGIH)
      1344-28-1 aluminium oxide 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
· Last revision: 04/30/2020 / 2.9
· 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

(Contd. on page 7)
Product name: Aluminum Oxide Lapping Film

TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit